User's Manual

An AMD Socket A Processor based AGP (4X) mainboard (200/266/333MHz)

Supports PC1600/PC2100/PC2700 Memory Modules (DDR Memory)

TRADEMARK

All products and company names are trademarks or registered trademarks of their respective holders.

These specifications are subject to change without notice.

Manual Revision 1.0
October 11, 2002

600000285E100

Table of Contents

Page

Section 1 Introduction

Package Contents 1-1

Overview

AMD Duron™ & Athlon™ Processors 1-2
Accelerated Graphics Port 1-3
Ultra ATA66/100/133 1-3
Hardware Monitoring 1-3
Mainboard Form-Factor 1-4
I/O Shield Connector 1-5
Power-On/Off (Remote) 1-5
System Block Diagram 1-6

Section 2 Features

Mainboard Features 2-1

Section 3 Installation

Mainboard Detailed Layout 3-2

Easy Installation Procedure

CPU Insertion 3-3
Jumper Settings 3-5
System Memory Configuration 3-6
Device Connectors 3-8
STR (Suspend To RAM) Function 3-12
CPU Overheating Protection 3-13

Section 4 Award BIOS Setup

BIOS Instructions 4-1
Standard CMOS Setup 4-2
Advanced BIOS Features 4-3

Advanced Chipset Features 4-8
Integrated Peripherals 4-13
Power Management Setup 4-19
PNP/PCI Configuration Setup 4-24
PC Health Status 4-27
Frequency/Voltage Control 4-29
Defaults Menu 4-32
Supervisor/User Password Setting 4-33
Exit Selecting 4-34

Section 5 Driver Installation

Easy Driver Installation 5-1
ALC650 Configuration Setup 5-2

Appendix Appendix A

Avance Media Player User's Guide A-1

Appendix B

Update Your System BIOS B-1

Appendix C

EEPROM BIOS Remover C-1

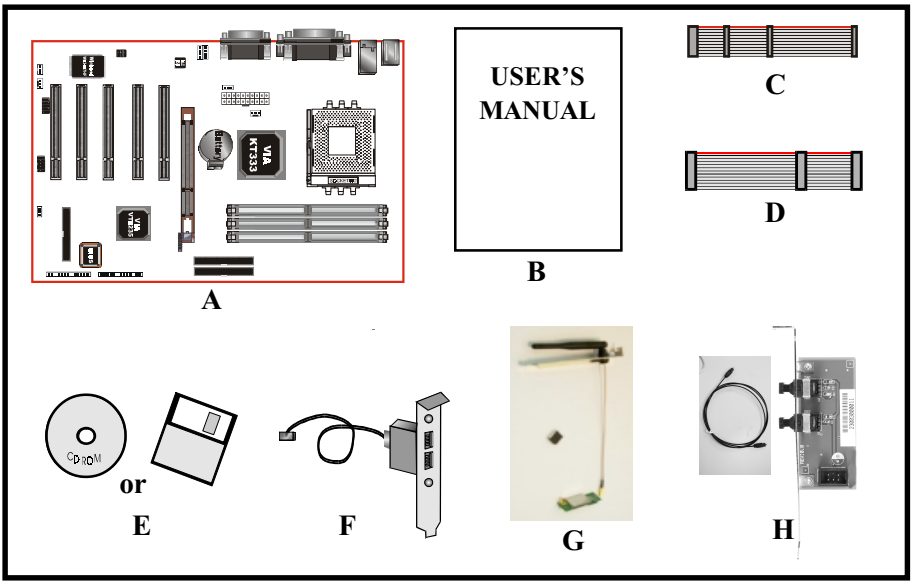
Appendix D

GHOST 7 Quick User's Guide (Optional) D-1

Section 1
INTRODUCTION

Package Contents

Contents	*Optional Item*
A. (1) Mainboard	F. (1) USB2.0 Cable
B. (1) User's manual	G. (1) Bluetooth Module
C. (1) Floppy ribbon cable	H. (1) SPD650 card
D. (1) ATA-66/100 Hard drive ribbon cable	
E. (1) Driver and utility	



AMD Duron™ & Athlon™ Processors

The AMD Athlon™ is a seventh-generation micro architecture with an integrated L2 cache, which is powerful enough to support the bandwidth requirements of a large range of applications, hardware, graphics, and memory technologies. These processors implement advanced design techniques such as:

- Socket A (PGA 462)
- 200/266/333MHz system interface based on the Alpha™ EV6 bus protocol.
- Three out-of-order, superscalar, pipelined Multimedia Units.
- Three out-of-order, superscaler, pipelined Integer Units.
- Fixed-sized internal instruction formats (MacroOPs).
- 72-entry Instruction Control Units.
- AMD enhanced 3DNow!™ technology
- L1 and L2 caches.
- Dynamic branch prediction.

Socket A is the name for AMD's new socketed interface designed to support both AMD Duron™ and AMD Athlon™ processors. This innovation is made possible by integrating the L2 cache memory on chip with the processor. Socket A will help enable smaller enclosures, and ultimately result in a wider variety of solutions in the market.

The AMD Duron™ & Athlon™ processors in the Socket A format continue to deliver the ultimate performance for cutting-edge applications. Both bring to desktop systems running industry-standard x86 software superscalar RISC performance. Being provided in the Socket A format they are the world's most powerful x86 processors. They easily deliver the highest integer, floating-point, and 3D multimedia performance for applications running on x86 platforms around.

The AMD Duron™ processor is derived from the AMD Athlon™ processor core. It features full-speed, on-chip cache memory, a 200/266/333MHz front side

system bus, and enhanced 3DNow!™ technology. Although both processors are related, there are key differences. The AMD Athlon™ processor is targeted at the performance segment, and as such will have more cache memory and higher clock speeds.

Accelerated Graphics Port (AGP or A.G.P.)

Typically, 3D graphics rendering requires a tremendous amount of memory, and demands ever increasing throughput speed as well. As 3D products for the personal computer become more and more popular, these demands will only increase. This will cause a rise in costs for both end users and manufacturers. Lowering these costs as well as improving performance is the primary motivation behind AGP. By providing a massive increase in the bandwidth available between the video card and the processor, it will assist in relieving some of these pressures for quite sometime.

The board provides the AGP 2.0 interface. The AGP interface can support external AGP slot (1.5V only) with AGP 4X/2X and Fast Write Transactions. The AGP Interface Specification revision 2.0 enhances the functionality of the original AGP Interface Specification by allowing 4X data transfers (4 data samples per clock) and 1.5 volt (Power supply) operation. (**1.5 volt AGP Card supports only**).

Ultra ATA/66/100/133

The board provides Ultra ATA/66/100/133 Bus Master IDE controller, that support Ultra ATA/66/100/133 protocols, perfect for such demanding applications as real-time video, multimedia, and high performance operating system. A new IDE cable is required for Ultra ATA/66/100/133. This cable is an 80 conductor cable; however the connectors are, of course, backwards compatible with ATA/33.

Hardware Monitoring

Hardware monitoring allows you to monitor various aspects of your systems operations and status. The features include CPU temperature, voltage and RPM of fan.

Mainboard Form-Factor

The board is designed with ATX form factor - the new industry standard of chassis. ATX form factor is essentially a Baby-AT baseboard rotated 90 degrees within the chassis enclosure and a new mounting configuration for the power supply. With these changes the processor is relocated away from the expansion slots, allowing them all to hold full length add-in cards. ATX defines a double height aperture to the rear of the chassis which can be used to host a wide range of onboard I/O. Only the size and position of this aperture is defined, allowing PC manufacturers to add new I/O features (e.g.; TV input, TV output, joystick, modem, LAN, etc.) to systems. This will help systems integrators differentiate their products in the marketplace, and better meet your needs.

- Smaller size promotes a smaller system size.
- I/O shield does not need to be retooled in an ATX 2.01 or later. The mainboard should be used in an ATX 2.01 (or later) compliant case.
- A smaller power supply can be used. High integration on mainboard reduces the system cost.

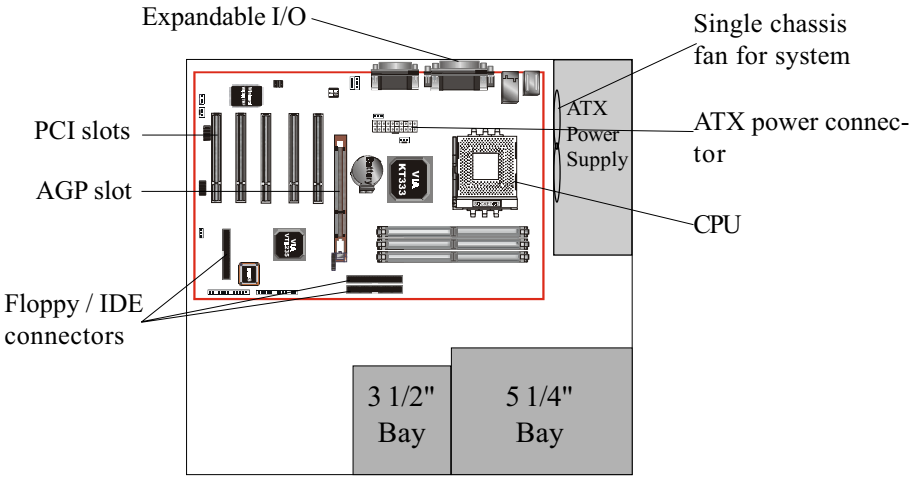


Figure 2: Summary of ATX chassis features

I/O Shield Connector

The board is equipped with an I/O back panel. Please use the appropriate I/O shield (figure 3).

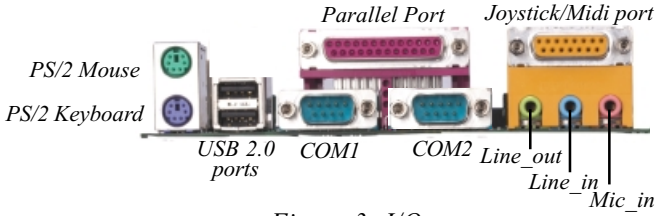


Figure 3: I/O ports

Power-On/Off (Remote)

The board has a single 20-pin connector for ATX power supplies. For ATX power supplies that support the **Remote On/Off** feature, this should be connected to the systems front panel for system Power On/Off button. The systems power On/Off button should be a momentary button that is normally open.

The board has been designed with “Soft Off" function. You can turn Off the system from one of two sources: The first is the front panel Power On/Off button, and the other is the "Soft Off" function (coming from the M/B’s onboard circuit controller) that can be controlled by the operating system such asWindows® 95/ 98/SE/ME or Windows®2000.

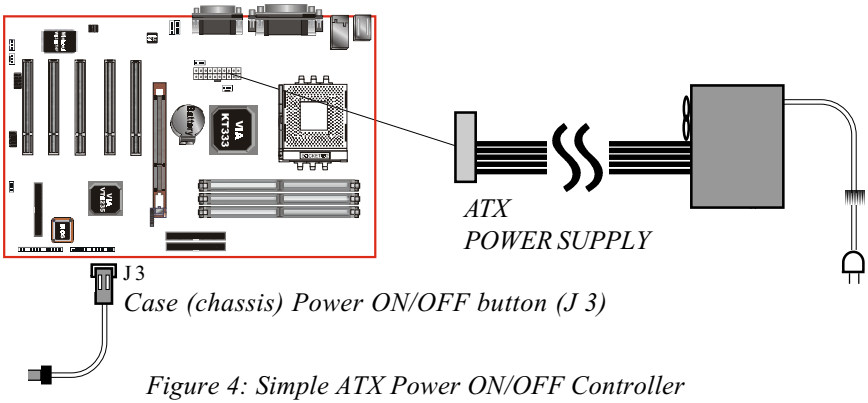


Figure 4: Simple ATX Power ON/OFF Controller

System Block Diagram

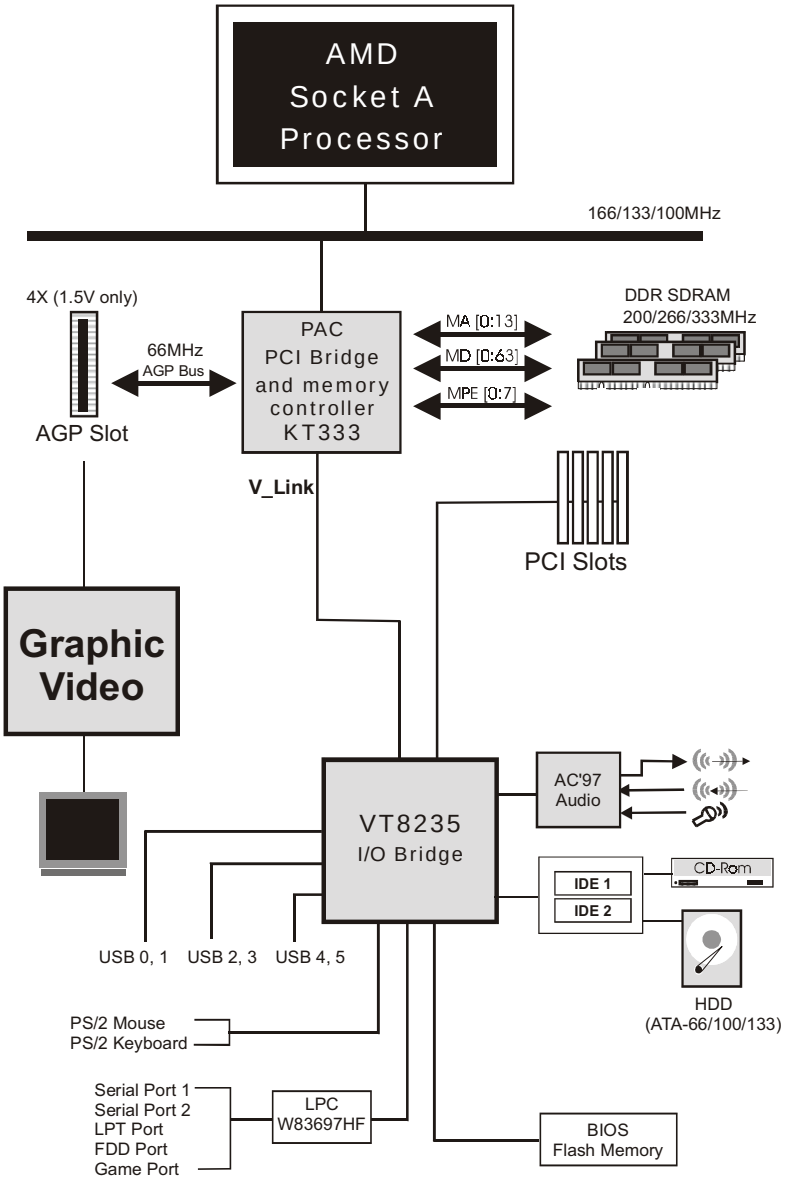


Figure 5: System Block Diagram

Section 2
FEATURES

Mainboard Features:

- **PROCESSOR**
  - The Socket A compatible AMD Athlon™ XP processor 1500+ to 2700+, 600MHz to 1.4GHz AMD Athlon™ and AMD Duron™ Processor up to 1.3GHz

- **CHIPSET**
  - VIA KT333 AGPset (KT333CF + VT8235)

- **FRONT SIDE BUS**
  - 200/266/333MHz

- **DRAM MODULE**
  - 184pin DDR DIMM x 3 for PC1600/2100/2700 Memory
  - DRAM Size: 64MB to 3GB

- **EXPANSION SLOT**
  - PCI x 5
  - 4X AGP x 1 **(1.5V only)**

- **ONBOARD I/O**
  - Winbond 83697HF LPC I/O integrated with FDD, Parallel, Serial, Game and Fast IR Port

- **ONBOARD PCI / IDE**
  - PCI Bus IDE Port with PIO / Ultra DMA-100/133 x 2 (Up to 4 Devices)

- **I/O CONNECTOR**
  - PS/2 Mouse and PS/2 style Keyboard
  - COM1, COM2, Printer, Audio-in/out, MIC & Game Port connectors

Features

- **USB**
  - Supports USB2.0 specification
  - USB connector x 6 (4 for Opt.)
  - USB3 can support Bluetooth Module

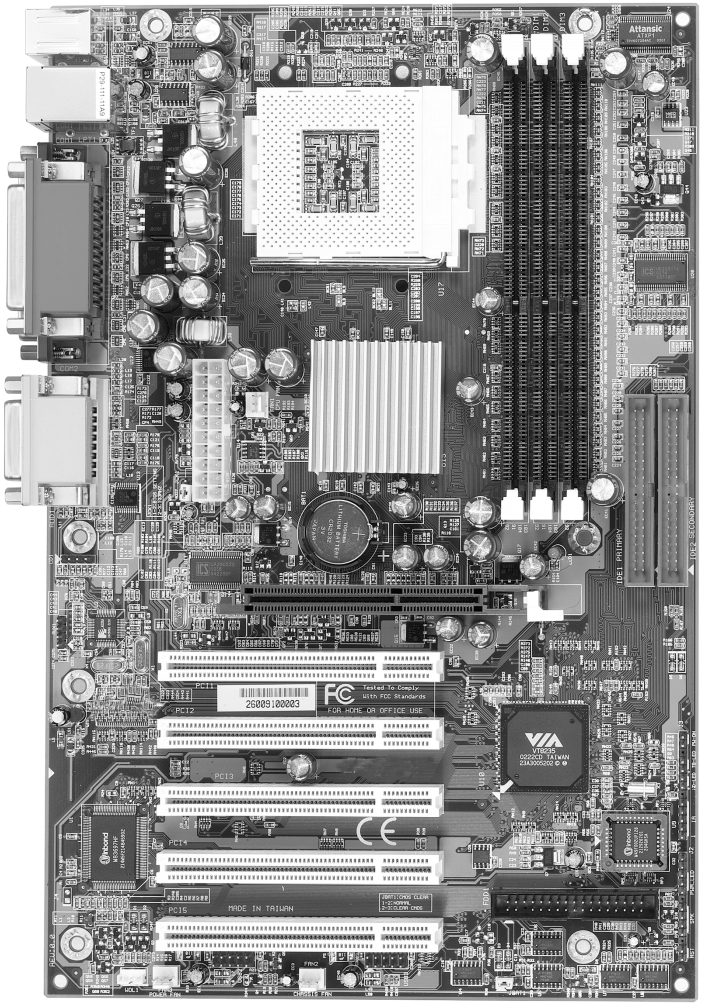
- **BIOS**
  - Award Plug & Play BIOS

- **Built-in AC 97 Digital Audio by Realtek ALC650 (6 channel)**
  - Compliant with AC97 2.2 specification
  - Six-channel, slot selectable DAC (Digital Analog Converter) output for multi-channel applications
  - Supports digital SPDIF function

- **EXTENDED FUNCTION**
  - Supports Hardware Monitoring Function by W83697HF
  - Supports exclusive KBPO (KeyBoard Power On) Function
  - Supports Wake-On-LAN Function
  - Supports STR (Suspend To RAM) power saving Function
  - Supports CPU Clock and Ratio settings via BIOS
  - Supports CPU Vcore and Memory Voltage setting via BIOS
  - Supports “Magic Health” and “Easy Boot” Function
  - Supports CPU Overheating Protection

- **FORM FACTOR**
  - 305mm x 200mm ATX Size

Section 3
INSTALLATION



Mainboard Layout

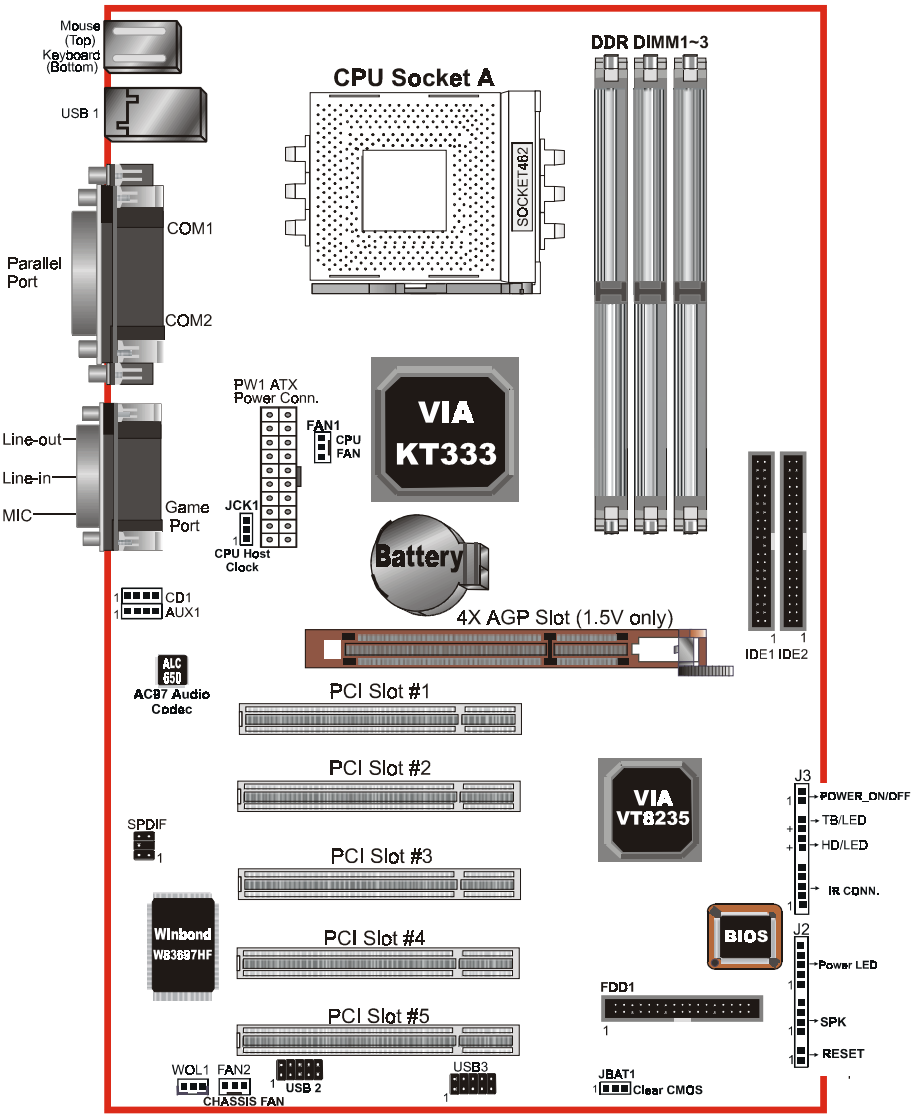


Figure 1

Easy Installation Procedure

The following must be completed before powering on your new system:

3-1. CPU Installation
3-2. Jumper Settings
3-3. System Memory Configuration
3-4. Device Connectors
3-5. STR Function
3-6. CPU Overheating Protection

Section 3-1
CPU Installation

CPU Insertion: (use AMD Athlon™ as reference)

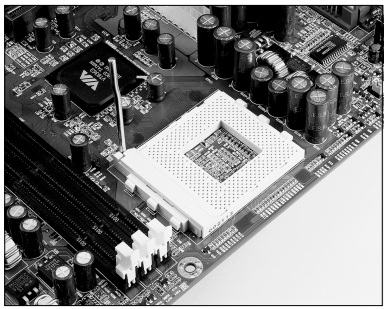


Figure 2

Step 1

Open the socket by raising the actuation lever.

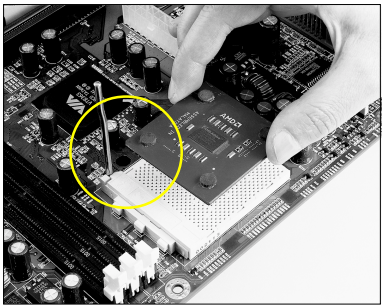


Figure 3

Step 2

Insert the processor.

Ensure proper pin 1 orientation by aligning the FC-PGA corner marking with the socket corner closest to the actuation arm tip. The pin field is keyed to prevent mis-oriented insertion.

Don't force processor into socket. If it does not go in easily, check for mis-orientation and debris.

Make sure the processor is fully inserted into the socket on all sides.

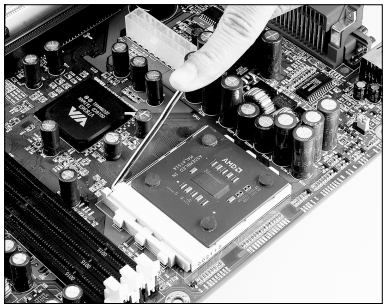


Figure 4

Step 3

Close the socket by lowering and locking the actuation lever.

Step 4

Thermal compound and qualified heatsink recommended by AMD are a must to avoid CPU overheat damage. For more information about installing your CPU, please refer to the AMD website article "Socket A AMD processor and Heatsink Installation Guide" http://www.amd.com/products/cpg/athlon/pdf/23986.pdf.

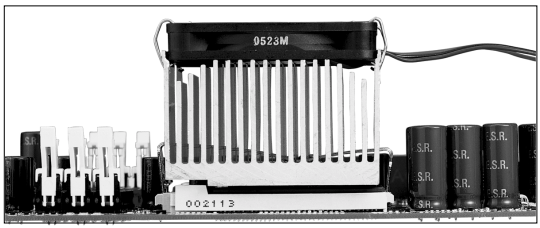
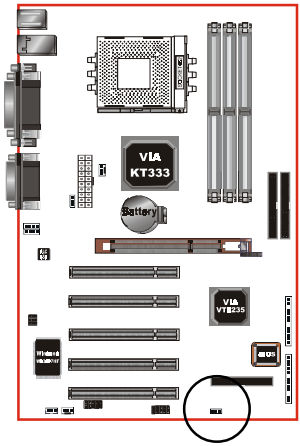


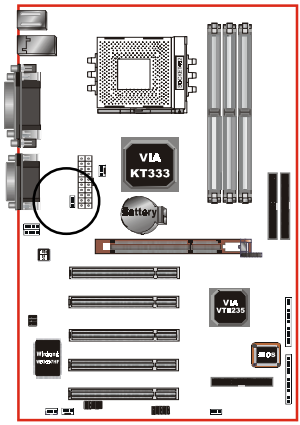
Figure 5

Section 3-2
Jumper Settings



JBAT1

CMOS Clear
1-2: Normal (Default)
2-3: Clear CMOS



JCK1

CPU Host Clock Select
1-2: BIOS Setting (Default)
2-3: 133MHz

Section 3-3
System Memory Configuration

Memory Layout

The board supports (3) PC1600/2100/2700 184-pin DIMMs (Dual In-line Memory Module). The DIMMs is for DDR SDRAM (Double-Data-Rate Synchronous DRAM) only.

Figure 6 and Table 1 show several possible memory configurations.

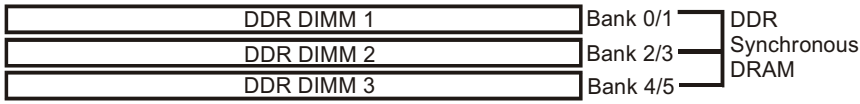


Figure 6

Total Memory	DDR DIMM 1 (Bank 0/1)	DDR DIMM 2 (Bank 2/3)	DDR DIMM 3 (Bank 4/5)
= 1GB Maximum	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	None	None
= 2GB Maximum	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	None
= 3GB Maximum	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1

Table 1

** DDR SDRAM supports 64, 128, 256, 512MB and 1GB DIMM modules.*

** 1GB module using 512Mb technology.*

** DO NOT MIX the unbuffered and registered DDR SDRAM on DIMM1, DIMM2 and DIMM 3 socket.*

**** When the FSB is 333MHz, you must to use PC2700 Memory.***

**** This mainboard doesn't support ECC memory module.***

** Using non-compliant memory with higher bus speeds (overclocking) may severely compromise the integrity of the system.*

DIMM Module Installation

Figure 7 displays the notch marks and what they should look like on your DDR DIMM memory module.

DIMMs have 184-pins and one notch that will match with the onboard DDR DIMM socket. DIMM modules are installed by placing the chip firmly into the socket at a 90 degree angle and pressing straight down (figure 8) until it fits tightly into the DIMM socket (figure 9).

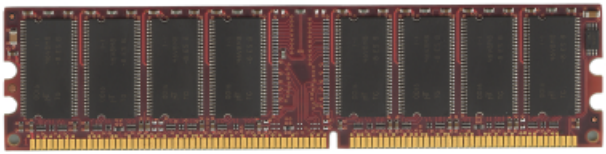


Figure 7

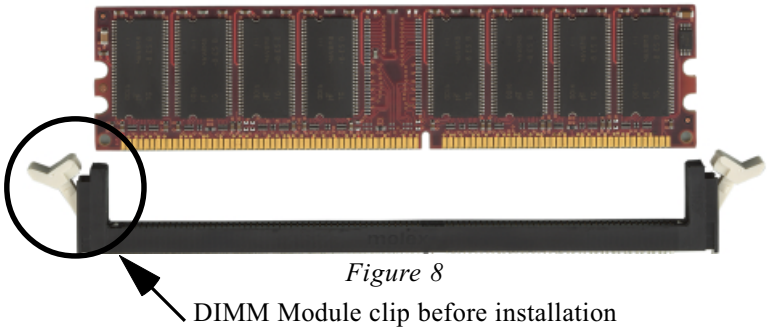


Figure 8

DIMM Module clip before installation

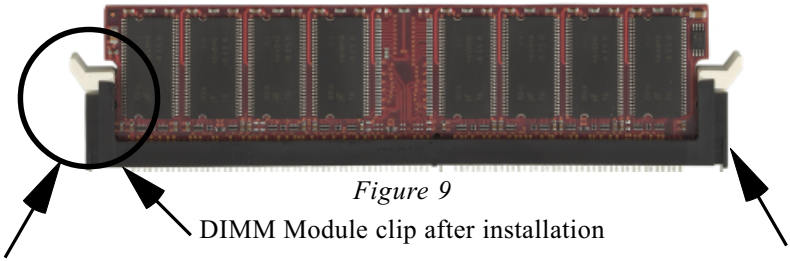


Figure 9

DIMM Module clip after installation

To remove the DIMM module simply press down both of the white clips on either side and the module will be released from the socket.

Section 3-4
Device Connectors

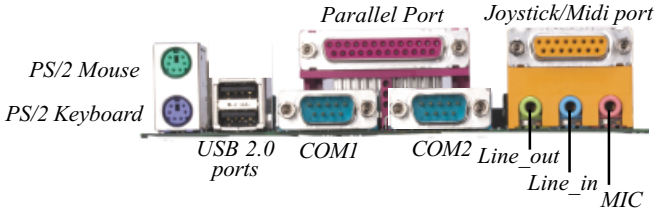
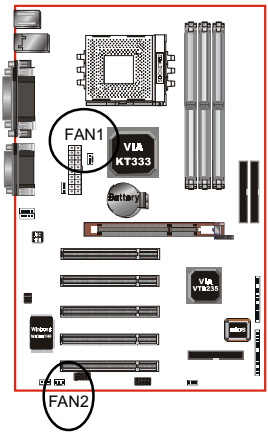


Figure 10: I/O Ports

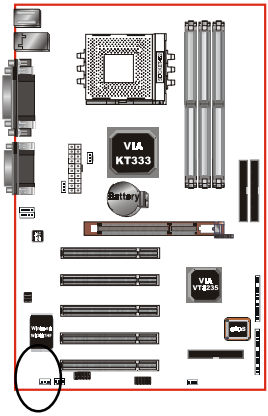


FAN1 / FAN2 :

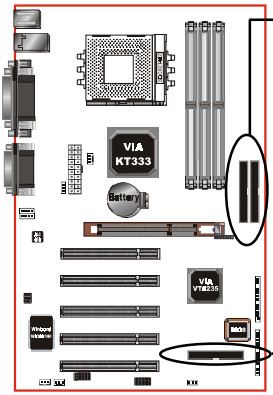
• The plug-in for CPU/Chassis Fan power

FAN1: CPU Fan

FAN2: CHASSIS Fan

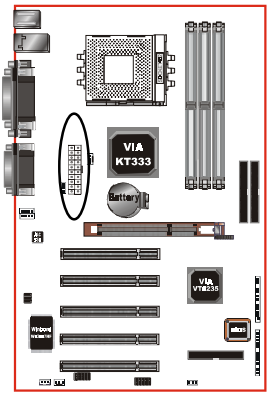


WOL1: WOL (Wake On LAN) Connector Reserved for NIC (Network Interface Card) to wake the system.



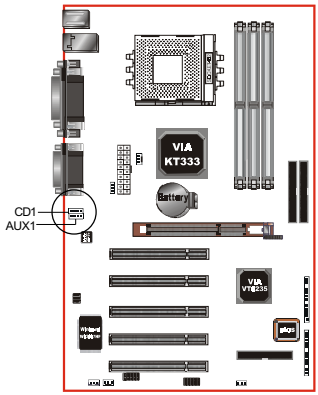
IDE1/2: Ultra DMA-66/100/133 Primary/ Secondary IDE Connector (Blue color)

FDD1: Floppy Controller Connector (Black color)

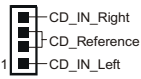


PW1: ATX Power Connector

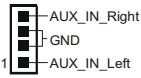
- 20-pin power connector

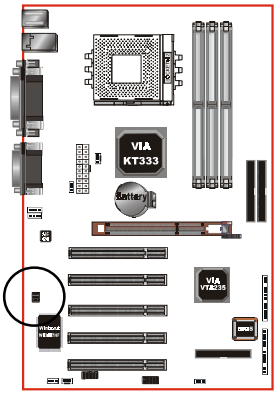


CD1: CD Audio_IN Connector



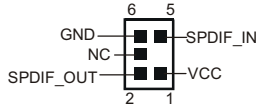
AUX1: Auxiliary Line_IN Connector

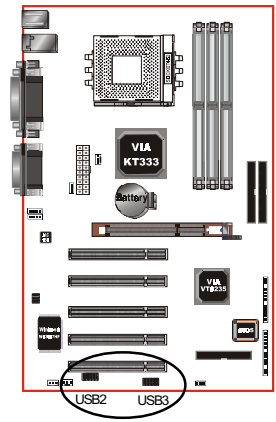




SPDIF:

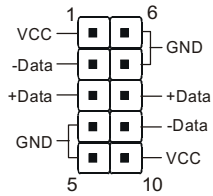
This connector is the digital link between the motherboard and your devices, such as CD player, sampler or DAT recorder. It allows the digital transmission of audio data in SPDIF (Sony/Philips Digital Interface) format.





USB2/3: USB port header pins for four USB2.0 ports.

The USB3 is used to connect bluetooth module for wireless connection.



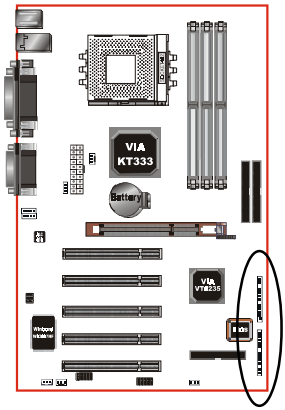
USB port header pin descriptions.

PIN#	Wire color	Signal Name	Comment
1	Red	Vcc	Cable Power
2	White	-Data	Data
3	Green	+Data	Data
4	Black	Ground	Cable Ground
5	Black	Ground	Case Ground
6	Black	Ground	Case Ground
7	Black	Ground	Cable Ground
8	Green	+Data	Data
9	White	-Data	Data
10	Red	Vcc	Cable Power

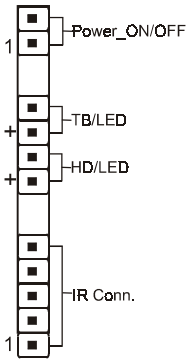
CAUTION !

Please make sure the USB cable has the same pin assignment. The different pin assignment may be caused damage of system.

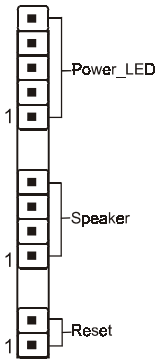
If you need the USB cable, please contact our retailer.



J3



J2



- **Power On/Off**
  (This is connected to the power button on the case. Using the Soft-Off by Pwr-BTTN feature, you can choose either Instant Off (turns system off immediately), or 4 sec delay (you need to push the button down for 4 seconds before the system turns off). When the system is in 4 sec delay mode, suspend mode is enabled by pushing the button momentarily.)

- **Turbo LED indicator**

- **IDE LED indicator**
  LED ON when Onboard PCI IDE Hard disks is activate

- **IR Connector**
  1. VCC 4. GND
  2. CIRRX 5. IRTX
  3. IRRX

- **Power LED**
  Power LED connector
  1. Power LED(+) 4. NC
  2. N/C 5. GND
  3. GND

- **Speaker**
  Connect to the system's speaker for beeping
  1. Speaker 3. GND
  2. N/C 4. VCC

- **Reset**
  Closed to restart system.

3-5 STR (Suspend To RAM) Function

This mainboard supports the STR (Suspend To RAM) power management scheme by maintaining the appropriate power states in the DDR SDRAM interface signals. The power source to the DDR SDRAM must be kept active during STR (ACPI S3). Advanced Configuration Power Interface (ACPI) provides many Energy Saving Features for operating systems that support Instant ON and QuickStart™ function.

1. Use the STR functionality to save system power, you are recommended to confirm the following requirements:
   a. Install ACPI qualified add-on cards (such as AGP, LAN, and modem cards).
   b. In BIOS under Power Management Setup (refer to Section 4), select "ACPI Suspend Type: S3(STR)" and "USB Resume from S3: Enabled (if you have a USB mouse or keyboard device).
   c. Install Windows® XP/2000/ME/98SE.
   d. Restart the system.
   e. Open the Control Panel Power Management application, and click the Advanced tab. In the Power buttons section, select "Stand By" from the drop-down lists.
2. To enable the STR function, click the START button and choose Shut Down. In the Shut Down Windows dialog box, select the Stand By option to enter STR mode.

   The following lists the differences between STR power saving mode and Green (or Suspend) mode:
   a. STR is the most advanced Power Management mode.
   b. STR cuts all the power supplied to peripherals except to memory - max. power saving.
   c. STR saves and keeps all on-screen data including any executed applications to DDR SDRAM.
   d. In STR mode, you must push the power button (connected to the onboard J3 pin), click your USB mouse buttons, or press your USB keyboard keys to wake up your system to the last display.

3-6 CPU Overheating Protection

This board has CPU Overheating Protection when the temperature of CPU is overheating. This board supports automatically shutdown (to remove power) circuit when the CPU has reached the temperature of approximately 110°C. Meanwhile the speaker will sustained beep and the system will not be to power on. This protection is designed by hardware, you don't need to do the BIOS setup.

To power on your system normally, we recommend you to confirm the following steps:

Step1: Unplug in the ATX power core (or turn off ATX power supply switch).

Step2: Please wait the beep to stop then plug in the ATX power core again (or turn on ATX power switch) to turn on your system.

Note: **The CPU Overheating Protection will function only when CPU has thermal diode design.**

Page Left Blank

Section 4
AWARD BIOS SETUP

Main Menu

Award's ROM BIOS provides a built-in Setup program which allows user to modify the basic system configuration and hardware parameters. The modified data is stored in a battery-backed CMOS, so that data will be retained even when the power is turned off. In general, the information saved in the CMOS RAM will stay unchanged unless there is a configuration change in the system, such as hard drive replacement or a device is added.

It is possible for the CMOS battery to fail causing CMOS data loss. If this happens you will need install a new CMOS battery and reconfigure your BIOS settings.

To enter the Setup Program :

Power on the computer and press the <Del> key during the POST (Power On Self Test). The BIOS CMOS SETUP UTILITY opens.

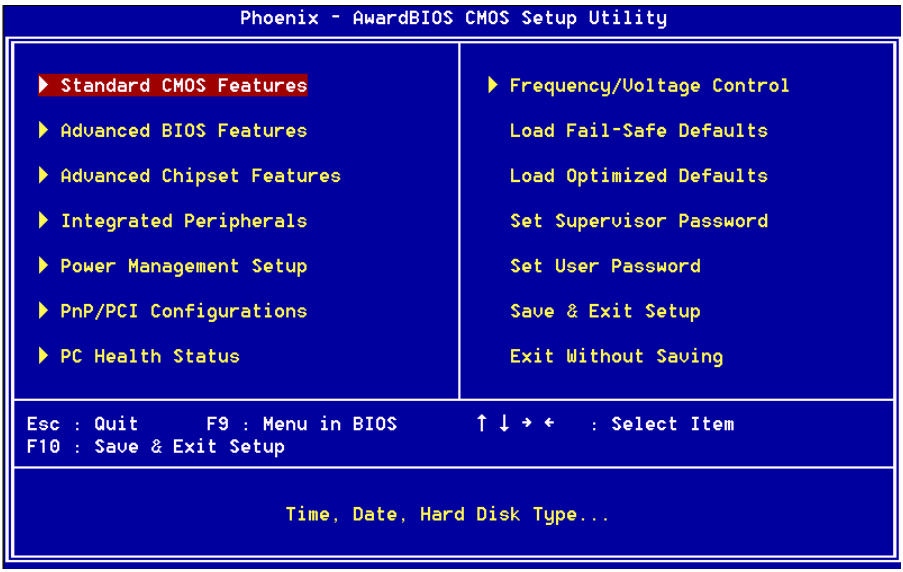


Figure 1: CMOS Setup Utility

The main menu displays all the major selection items. Select the item you need to reconfigure. The selection is made by moving the cursor (press any direction (arrow key) to the item and pressing the 'Enter' key. An on-line help message is displayed at the bottom of the screen as the cursor is moved to various items which provides a better understanding of each function. When a selection is made, the menu of the selected item will appear so that the user can modify associated configuration parameters.

4-1 Standard CMOS Setup

Choose "STANDARD CMOS FEATURES" in the CMOS SETUP UTILITY Menu (Figure 2). Standard CMOS Features Setup allows the user to configure system settings such as the current date and time, type of hard disk drive installed, floppy drive type, and display type. Memory size is auto-detected by the BIOS and displayed for your reference. When a field is highlighted (use direction keys to move the cursor and the <Enter> key to select), the entries in the field can be changed by pressing the <PgDn> or the <PgUp> key.

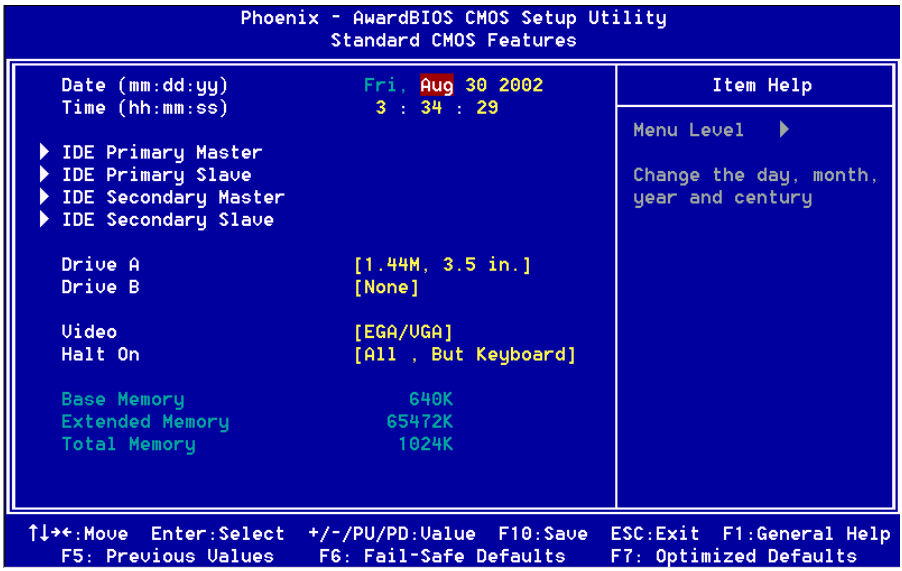

Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Fri, Aug 30 2002
Time (hh:mm:ss) 3 : 34 : 29
IDE Primary Master
IDE Primary Slave
IDE Secondary Master
IDE Secondary Slave
Drive A [1.44M, 3.5 in.]
Drive B [None]
Video [EGA/VGA]
Halt On [All , But Keyboard]
Base Memory 640K
Extended Memory 65472K
Total Memory 1024K
Item Help
Menu Level
Change the day, month, year and century
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 2: Standard CMOS Setup

Notes:

- If the hard disk Primary Master/Slave and Secondary Master/Slave are set to Auto, then the hard disk size and model will be auto-detected.
- The "Halt On:" field is used to determine when to halt the system by the BIOS if an error occurs.
- Floppy 3 Mode support is a mode used to support a special 3.5-inch drive used in Japan. This is a 3.5-inch disk that stores 1.2 MB. The default setting for this is disabled.

4-2 Advanced BIOS Features

Selecting the "ADVANCED BIOS FEATURES" option in the CMOS SETUP UTILITY menu allows users to change system related parameters in the displayed menu. This menu shows all of the manufacturer's default values for the board.

Pressing the [F1] key displays a help message for the selected item.

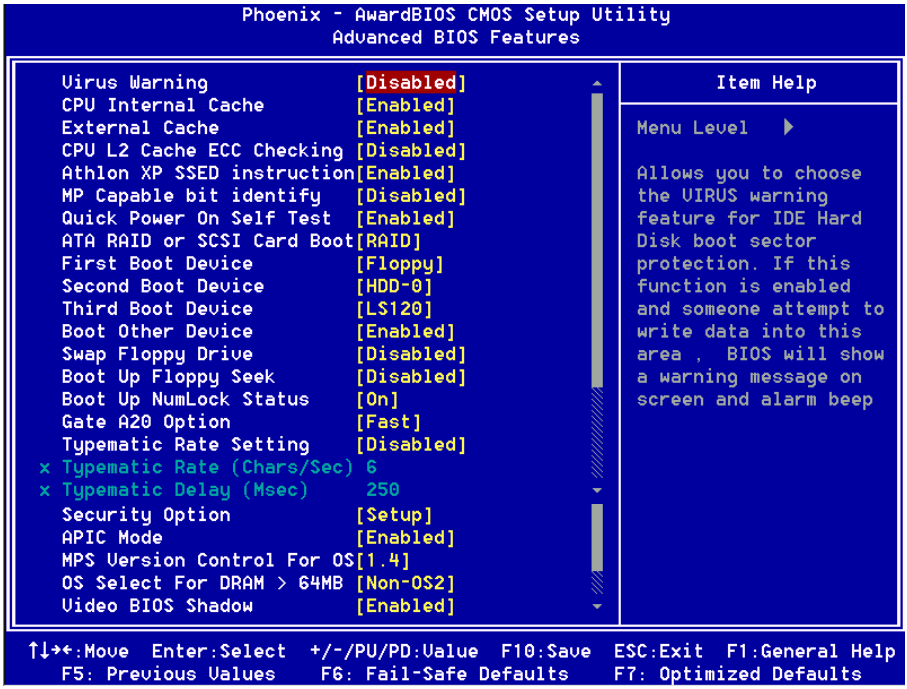

Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
Virus Warning [Disabled]
CPU Internal Cache [Enabled]
External Cache [Enabled]
CPU L2 Cache ECC Checking [Disabled]
Athlon XP SSED instruction [Enabled]
MP Capable bit identify [Disabled]
Quick Power On Self Test [Enabled]
ATA RAID or SCSI Card Boot [RAID]
First Boot Device [Floppy]
Second Boot Device [HDD-0]
Third Boot Device [LS120]
Boot Other Device [Enabled]
Swap Floppy Drive [Disabled]
Boot Up Floppy Seek [Disabled]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
Typematic Rate Setting [Disabled]
x Typematic Rate (Chars/Sec) 6
x Typematic Delay (Msec) 250
Security Option [Setup]
APIC Mode [Enabled]
MPS Version Control For OS [1.4]
OS Select For DRAM > 64MB [Non-OS2]
Video BIOS Shadow [Enabled]
Item Help
Menu Level ▶
Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area , BIOS will show a warning message on screen and alarm beep
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 3: BIOS Features Setup

Virus Warning

During and after system boot up, any attempt to write to the boot sector or partition table of the hard disk drive halts the system and an error message appears. You should then run an anti-virus program to locate the virus. Keep in mind that this feature protects only the boot sector, not the entire hard drive. The default is Disabled.

Enabled: Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector.

Disabled:No warning message appears when anything attempts to access the boot sector.

Note: Many disk diagnostic programs that access the boot sector table can trigger the virus warning message. If you plan to run such a program, we recommend that you first disable the virus warning.

CPU Internal Cache

This controls the status of the processor's internal cache area. The default is Enabled.

Options: Enabled, Disabled.

External Cache

This controls the status of the external (L2) cache area. The default is Enabled.

Options: Enabled, Disabled.

CPU L2 Cache ECC Checking

This item allows you to enable/disable CPU L2 Cache ECC checking.

Options: Enabled, Disabled.

Athlon 4 SSED instruction

This item allows you to disable Athlon 4 new SSED instruction. The default is Enabled.

Options: Enabled, Disabled.

MP Capable bit identify

This item allows you to identify Athlon MP Processor, if this function is Enabled. The default is Disabled.

Options: Enabled, Disabled.

Quick Power On Self Test

This category speeds up the Power On Self Test (POST). The default is Enabled.
Enabled: This setting will shorten or skip of the items checked during POST.
Disabled: Normal POST.

ATA RAID & SCSI Card Boot

Setup the boot up priority either form onboard ATA RAID connector or SCSI Card, if you select SCSI as the first boot at the option below item. The default is RAID, SCSI.
Options: RAID, SCSI.

First /Second/Third/Other Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.
Options: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled.

Boot Other Device

When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the first, second, and third boot devices. The default is Enabled.
Options: Enabled, Disabled.

Swap Floppy Drive

This will swap your physical drive letters A & B if you are using two floppy disks. The default is Disabled.
Enabled: Floppy A & B will be swapped under the O/S.
Disabled:Floppy A & B will be not swapped.

Boot Up Floppy Seek

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with 360K capacity. The default is Disabled.
Options: Enabled, Disabled.

Boot Up NumLock Status

This controls the state of the NumLock key when the system boots. The default is On.
On: The keypad acts as a 10-key pad.
Off: The keypad acts like cursor keys.

Gate A20 Option

This refers to the way the system addresses memory above 1 MB (extended memory). The default is Normal.

Normal: The A20 signal is controlled by the keyboard controller or chipset hardware.

Fast: The A20 signal is controlled by Port 92 or chipset specific method.

Typematic Rate Setting

This determines the keystrokes repeat rate. The default is Disabled.

Enabled: Allows typematic rate and typematic delay programming.

Disabled: The typematic rate and typematic delay will be controlled by the keyboard controller in your system.

Typematic Rate (Chars/Sec)

This is the number of characters that will be repeated by a keyboard press. The default is 6.

Options: 6 ~ 30 characters per second.

Typematic Delay (msec)

This setting controls the time between the first and the second character displayed by typematic auto-repeat. The default is 250.

Options: 250/500/750/1000 msec.

Security Option

This category allows you to limit access to the System and Setup, or just to Setup. The default is Setup.

System: The system will not boot and the access to Setup will be denied if the correct password is not entered at the prompt.

Setup: The system will boot; but the access to Setup will be denied if the incorrect password is not entered at the prompt.

APIC Mode

This item allows you to enable APIC (Advanced Programmable Interrupt Controller) functionality. APIC is an Intel chip that provides symmetric multiprocessing (SMP) for its Pentium systems. The default is Disabled.

Options: Enabled, Disabled.

MPS Version Control For OS

Specifies the Multiprocessor Specification (MPS). Version 1.4 supports multiple PCI bus configurations by incorporating extended bus definitions. Enable this for Windows NT or Linux. For older operating systems, select Version 1.1. The default is 1.4.
Options: 1.1, 1.4.

OS Select For DRAM > 64 MB

Some operating systems require special handling. Use this option only if your system has greater than 64 MB of memory. The default is Non-OS2.

OS2: Select this if you are running the OS/2 operating system with greater than 64 MB of RAM.

Non-OS2: Select this for all other operating systems and configurations.

Video BIOS Shadow

This option allows video BIOS to be copied into RAM. Video Shadowing will increase the video performance of your system.
Options: Enabled, Disabled.

4-3 Advanced Chipset Features

Choose the "ADVANCED CHIPSET FEATURES" option in the CMOS SETUP UTILITY menu to display following menu.

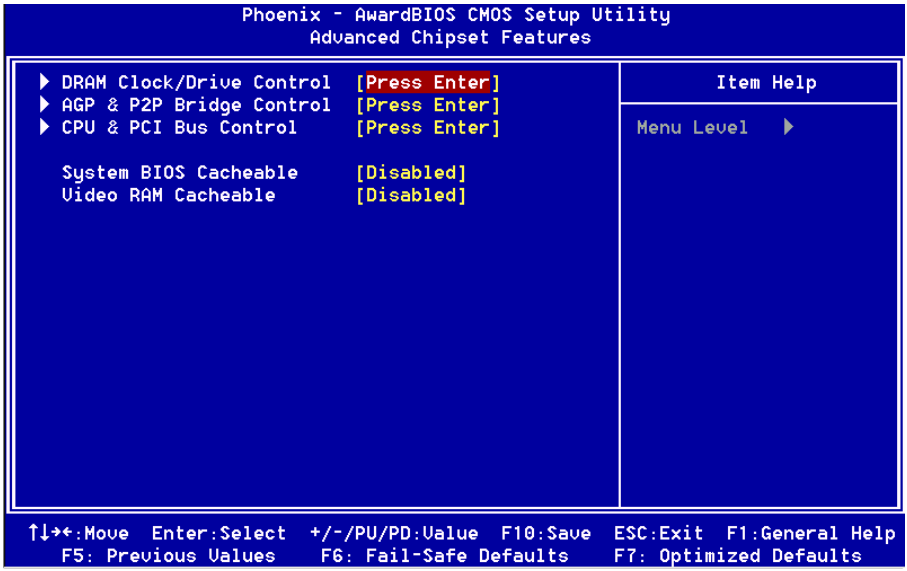

Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features
DRAM Clock/Drive Control [Press Enter]
AGP & P2P Bridge Control [Press Enter]
CPU & PCI Bus Control [Press Enter]
System BIOS Cacheable [Disabled]
Video RAM Cacheable [Disabled]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 4: Chipset Features Setup

System BIOS Cacheable

This item allows the system to be cached in memory for faster execution. The default is Enabled.

Options: Disabled, Enabled.

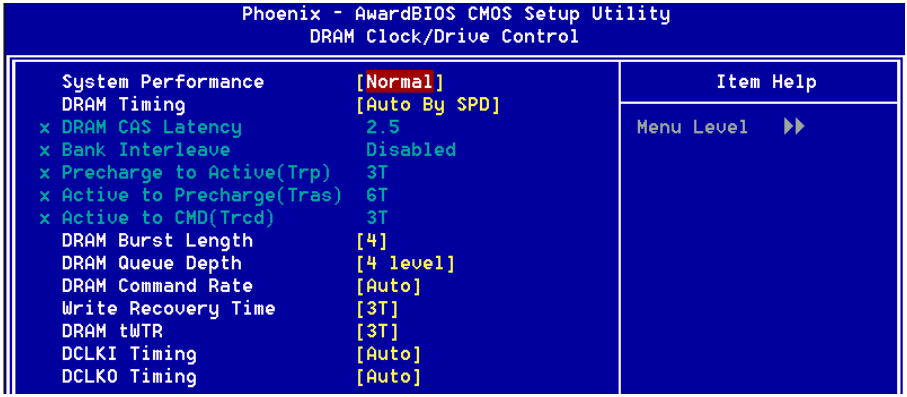
Video RAM Cacheable

This option allows the CPU to cache read/writes of the video RAM. The default is Enabled.

Options: Disabled, Enabled.

DRAM Clock / Drive Control

Scroll to DRAM Clock/Timing Control and press <Enter>. The following screen appears:


Phoenix - AwardBIOS CMOS Setup Utility
DRAM Clock/Drive Control
System Performance [Normal]
DRAM Timing [Auto By SPD]
x DRAM CAS Latency 2.5
x Bank Interleave Disabled
x Precharge to Active(Trp) 3T
x Active to Precharge(Tras) 6T
x Active to CMD(Trcd) 3T
DRAM Burst Length [4]
DRAM Queue Depth [4 level]
DRAM Command Rate [Auto]
Write Recovery Time [3T]
DRAM tWTR [3T]
DCLKI Timing [Auto]
DCLKO Timing [Auto]
Item Help
Menu Level ▶▶

System Performance

This item will help you to configure your system performance quickly and easily.
Options: Normal, Fast, Turbo, Ultra.

Note: If you select the higher performance, compatibility problem could be occurred.

DRAM Timing

For setting DRAM Timing, By SPD is follow SDRAM Serial Presence Detect Specification.
Options: Manual, Auto by SPD.

DRAM CAS Latency

Enables you to select the CAS latency time. The value is set at the factory depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM and DRAM clock from DRAM Timing Selectable. The default is set by SPD (see 'DRAM Timing').
Options: 1.5, 2, 2.5, 3.

Bank Interleave

The item allows you to set how many banks of SDRAM support in your mainboard. Default is by SPD.
Options: 2 Bank, 4 Bank, Disabled.

Precharge to Active (Trp)

This item refers to the number of cycles required to return data to its original location to close the bank or the number of cycles required to page memory before the next bank activate command can be issued. The default is by DRAM SPD.
Options: 3T, 2T.

Active to Precharge (Tras)

This item specifies the number of clock cycles needed after a bank active command before a precharge can occur (sets the minimum RAS pulse width.). The default is by DRAM SPD.
Options: 6T, 5T.

Active to CMD (Trcd)

This item sets the timing parameters for the system memory such as the CAS (Column Address Strobe) and RAS (Row Address Strobe). The default is by DRAM SPD.
Options: 3T, 2T, 4T, 5T.

DRAM Burst Length

Options: 4, 8.

DRAM Queue Depth

Options: 4 level, 2 level, 3 level.

DRAM Command Rate

Setup the timing at each cycle.
Options: 1T Command, 2T Command, Auto.

Write Recovery Time

Options: 2T , 3T.

DRAM tWTR

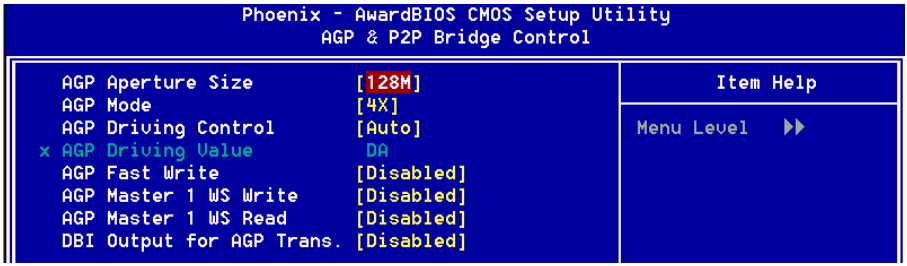
TWTR Timing Control
Options: 1T , 3T.

DCLKI/DCLKO Timing

Options: 0ns, 0.5ns, 1ns, 1.5ns, Auto.

▸ *AGP & P2P Bridge Control*

Scroll to AGP & P2P Bridge Control and press <Enter>. The following screen appears:


Phoenix - AwardBIOS CMOS Setup Utility
AGP & P2P Bridge Control
AGP Aperture Size [128M]
AGP Mode [4X]
AGP Driving Control [Auto]
x AGP Driving Value DA
AGP Fast Write [Disabled]
AGP Master 1 WS Write [Disabled]
AGP Master 1 WS Read [Disabled]
DBI Output for AGP Trans. [Disabled]
Item Help
Menu Level ▸▸

AGP Aperture Size (MB)

This item defines the size of the aperture if you use an AGP graphics adapter. It refers to a section of the PCI memory address range used for graphics memory. The default is 128 MB.

Options: 4, 8, 16, 32, 64, 128, 256 MB.

AGP Mode

Chipset AGP Mode support.

Options: 1X, 2X, 4X.

AGP Driving Control

This item allows you to adjust the AGP driving force. Choose Manual to key in a AGP Driving Value in the next selection. This field is recommended to set in **Auto** for avoiding any error in your system.

Options: Auto, Manual.

AGP Fast Write

Selecting Enabled allows to use Fast Write Protocol for 4X AGP card.

Options: Enabled, Disabled.

AGP Master 1 WS Write

When Enabled, Writes to the AGP (Accelerated Graphics Port) are executed with one wait states.

Options: Enabled, Disabled.

AGP Master 1 WS Read

When Enabled, Reads to the AGP (Accelerated Graphics Port) are executed with one wait states.

Options: Enabled, Disabled.

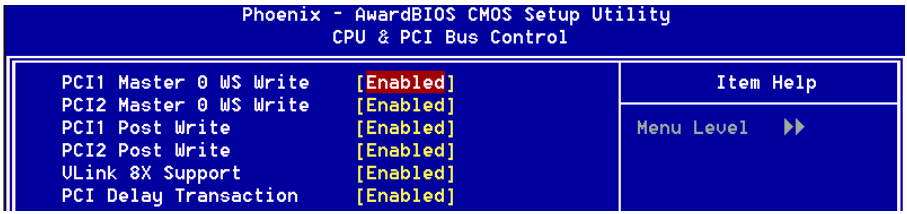
DBI Output for AGP Trans.

Enables DBI output for AGP transactions.

Options: Enabled, Disabled.

▸ *CPU & PCI Bus Control*

Scroll to CPU & PCI Bus Control and press <Enter>. The following screen appears:


Phoenix - AwardBIOS CMOS Setup Utility
CPU & PCI Bus Control
PCI1 Master 0 WS Write [Enabled]
PCI2 Master 0 WS Write [Enabled]
PCI1 Post Write [Enabled]
PCI2 Post Write [Enabled]
VLink 8X Support [Enabled]
PCI Delay Transaction [Enabled]
Item Help
Menu Level ▸▸

PCI1/2 Master 0 WS Write

When Enabled, Writes to the PCI bus are commanded with zero wait states.

Options: Enabled, Disabled.

PCI1/2 Post Write

Enables CPU to PCI bus POST write.

Options: Enabled, Disabled.

VLink 8X Support

Enables VLink 8X support.

Options: Enabled, Disabled.

PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.2.

Options: Enabled, Disabled.

4-4 Integrated Peripherals

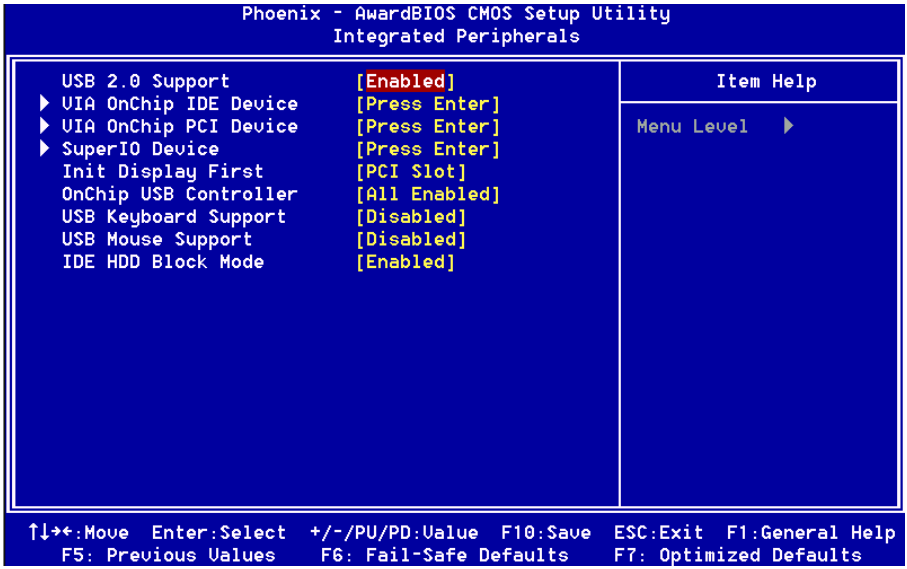

Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals
USB 2.0 Support [Enabled]
VIA OnChip IDE Device [Press Enter]
VIA OnChip PCI Device [Press Enter]
SuperIO Device [Press Enter]
Init Display First [PCI Slot]
OnChip USB Controller [All Enabled]
USB Keyboard Support [Disabled]
USB Mouse Support [Disabled]
IDE HDD Block Mode [Enabled]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 5: Integrated Peripherals

Notes:

- If you do not use the Onboard IDE connector, then you will need to set Onboard Primary PCI IDE: Disabled and Onboard Secondary PCI IDE: Disabled
- The Onboard PCI IDE cable should be equal to or less than 18 inches (45 cm.).

USB 2.0 Support

Enables the USB 2.0 support.
Options: Disabled, Enabled.

Init Display First

If two video cards are used (1 AGP and 1 PCI) this specifies which one will be the primary display adapter. The default is PCI Slot.
Options: PCI Slot, AGP.

Onchip USB Controller

Enables the USB controller.
Options: All Disabled, All Enabled, 1&2 USB port, 2&3 USB port, 1&3 USB port, 1 USB port, 2 USB port, 3 USB port.

USB Keyboard Support

Your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard Device. The default is Disabled.

Options: Enabled, Disabled.

USB Mouse Support

Your system contains a Universal Serial Bus (USB) controller and you have a USB Mouse Device. The default is Disabled.

Options: Enabled, Disabled.

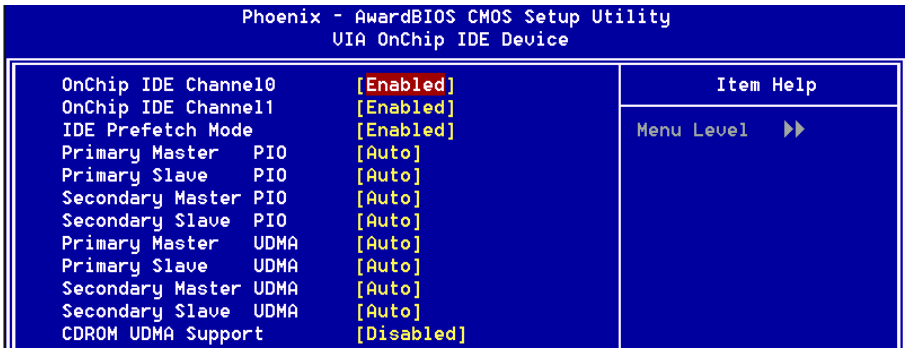
IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

Options: Enabled, Disabled.

▸ *VIA OnChip IDE Device*

Scroll to VIA Onchip IDE Device and press <Enter>. The following screen appears:



OnChip IDE Channel0/1

The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select *Enabled* to activate each channel separately.

Options: Enabled, Disabled.

IDE Prefetch Mode

Selecting Enabled reduces latency between each drive read/write cycle, but may cause instability in IDE subsystems that cannot support such fast performance. If you are getting disk drive errors, try setting this value to Disabled. This field does not appear when the Internal PCI/IDE field, above, is Disabled.
Options: Enabled, Disabled.

Primary/Secondary Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device. The default is Auto.
Options: Auto, Mode 0 ~ 4.

Primary/Secondary Master/Slave UDMA

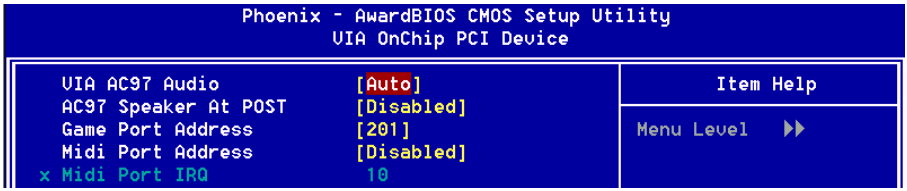
This allows you to select the mode of operation for the Ultra DMA-33/66/100/133 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA-33/66/100/133, select Auto to enable UDMA mode by BIOS or you can select mode by manual.
Options: Auto, Disabled.

CDROM UDMA Support

This allows you to select the mode of operation for the CDROM implementation is possible only if your CDROM drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver).
Options: Enabled, Disabled.

▸ *VIA Onchip PCI Device*

Scroll to VIA Onchip PCI Device and press <Enter>. The following screen appears:


Phoenix - AwardBIOS CMOS Setup Utility
VIA OnChip PCI Device
VIA AC97 Audio [Auto]
AC97 Speaker At POST [Disabled]
Game Port Address [201]
Midi Port Address [Disabled]
x Midi Port IRQ 10
Item Help
Menu Level ▸▸

VIA AC97 Audio

This item allows you to enable or disable the chipset family to support AC97 Audio. The system default is Enabled.

Options: Auto, Disabled.

AC97 Speaker At POST

This item allows you to decide to enable or disable AC97 Speaker At POST function. The default is Disabled.

Options: Enabled, Disabled.

Game Port Address

Select an address for the Game port.

Options: 201 (default), 209, Disabled.

Midi Port Address

Select an address for the Midi port.

Options: 290, 300, 330, Disabled (default).

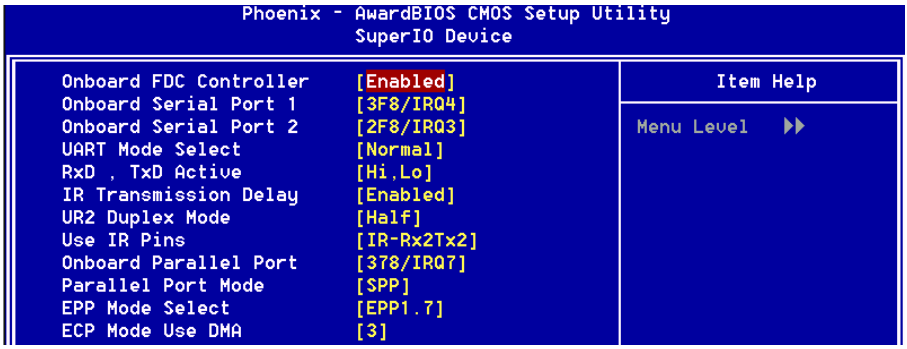
Midi Port IRQ

Select an interrupt for the Midi port.

Options: 5, 10 (default).

Super IO Chip Setup

Scroll to Super IO Chip Setup and press <Enter>. The following screen appears:


Phoenix - AwardBIOS CMOS Setup Utility
SuperIO Device
Onboard FDC Controller [Enabled]
Onboard Serial Port 1 [3F8/IRQ4]
Onboard Serial Port 2 [2F8/IRQ3]
UART Mode Select [Normal]
RxD , TxD Active [Hi,Lo]
IR Transmission Delay [Enabled]
UR2 Duplex Mode [Half]
Use IR Pins [IR-Rx2Tx2]
Onboard Parallel Port [378/IRQ7]
Parallel Port Mode [SPP]
EPP Mode Select [EPP1.7]
ECP Mode Use DMA [3]
Item Help
Menu Level ▶▶

Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install and-in FDC or the system has no floppy drive, select Disabled in this field.

Options: Enabled, Disabled.

Onboard Serial Port 1/2

Select an address and corresponding interrupt for the first and second serial ports.

Options: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

UART Mode Select

This filed allows the users to configure what IR mode the 2nd serial port should use. The default is Normal.

Options: Normal, IrDA and ASKIR.

RxD, TxD Active

This field configures the receive and transmit signals generated from the IR port. The default is Hi Lo (when UART Mode Select is not set to Normal).

Options: Hi Hi, Hi Lo, Lo Hi, and Lo Lo.

IR Transmission delay

This item allows you to enabled/disable IR transmission delay.

Options: Enabled, Disabled.

UR2 Duplex Mode

This item allows you to select IR half/full duplex function.
Options: Half, Full.

Use IR Pins

This item allows you to select IR transmission routes, one is RxD2, TxD2 (COM Port) and the other is IR-Rx2Tx2.
Options: IR-Rx2Tx2, RxD2, TxD2.

Onboard Parallel Port

This field allows the user to configure the LPT port.
Options: 378/IRQ7, 278/IRQ5, 3BC/IRQ7, Disabled.

Parallel Port Mode

This field allows the user to select the parallel port mode.
Options: SPP, EPP, ECP, ECP+EPP.

EPP Mode Select

This item allows you to determine the IR transfer mode of onboard I/O chip.
Options: EPP1.9, EPP1.7.

ECP Mode USE DMA

This field allows the user to select DMA1 or DMA3 for the ECP mode.
Options: DMA1, DMA3.

4-5 Power Management Setup

Choose the "POWER MANAGEMENT SETUP" in the CMOS SETUP UTILITY to display the following screen. This menu allows the user to modify the power management parameters and IRQ signals. In general, these parameters should not be changed unless it's absolutely necessary.

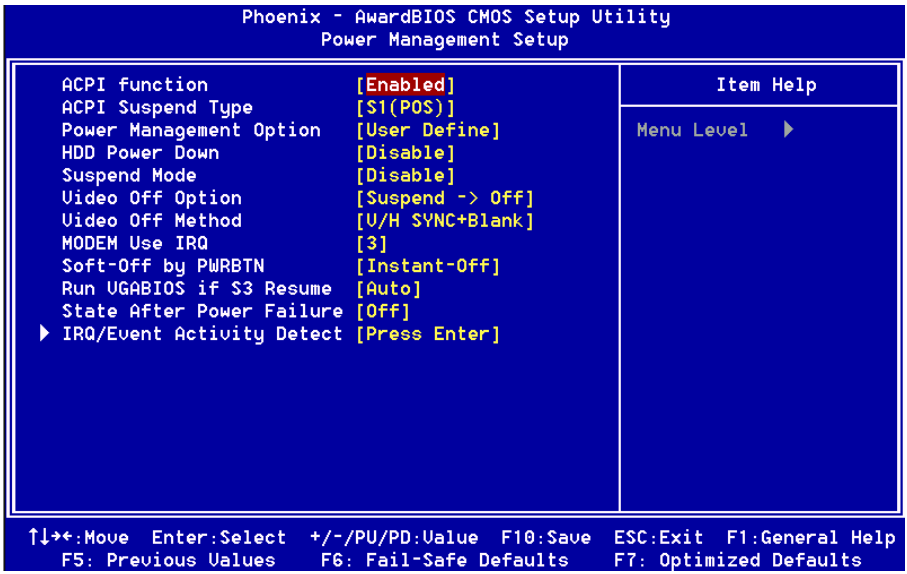

Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup
ACPI function [Enabled]
ACPI Suspend Type [S1(POS)]
Power Management Option [User Define]
HDD Power Down [Disable]
Suspend Mode [Disable]
Video Off Option [Suspend -> Off]
Video Off Method [V/H SYNC+Blank]
MODEM Use IRQ [3]
Soft-Off by PWRBTN [Instant-Off]
Run VGABIOS if S3 Resume [Auto]
State After Power Failure [Off]
IRQ/Event Activity Detect [Press Enter]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 6: Power Management

ACPI Function

This option allows you to select ACPI Function. The default is Enabled.
Options: Enabled, Disabled.

ACPI Suspend Type

This item allows you to select S1(POS) or S3(STR) function.
Options: S1(POS), S3(STR), S1&S3.

Power Management Option

Use this to select your Power Management selection. The default is User define.

Max. saving: Maximum power savings. Inactivity period is 1 minute in each mode.

Min. saving: Minimum power savings. Inactivity period is 1 hour in each mode.

User define: Allows user to define PM Timers parameters to control power saving mode.

HDD Power Down

When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.
Options: Enabled, 1Min ~ 15Min.

Suspend Mode

enabled and after the set time of system inactivity, all devices except the CPU will be shut off.
Options: Enabled, 1 , 2, 4 ,6, 8, 10, 20, 30, 40Min and 1Hour .

Video Off Option

When enabled, this feature allows the VGA adapter to operate in a power saving mode.
Always On: Monitor will remain on during power saving modes.
Suspend->Off: Monitor blanked when the systems enters the suspend mode.

Video Off Method

This option allows you to select how the video will be disabled by the power management. The default is V/H Sync + Blank

V/H Sync + Blank:	System turns off vertical and horizontal synchronization ports and writes blanks to the video buffer.
DPMS Support:	Select this option if your monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standards Association (VESA). Use the software supplied for your video subsystem to select video power management values.
Blank Screen:	System only writes blanks to the video buffer.

MODEM Use IRQ

Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system. Default is IRQ 3.
Options: N/A, 3, 4, 5, 7, 9, 10, 11

Soft-Off by PWRBTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung." The default is Instant-off.
Options: Delay 4 Sec, Instant-Off.

Run VGABIOS if S3 Resume

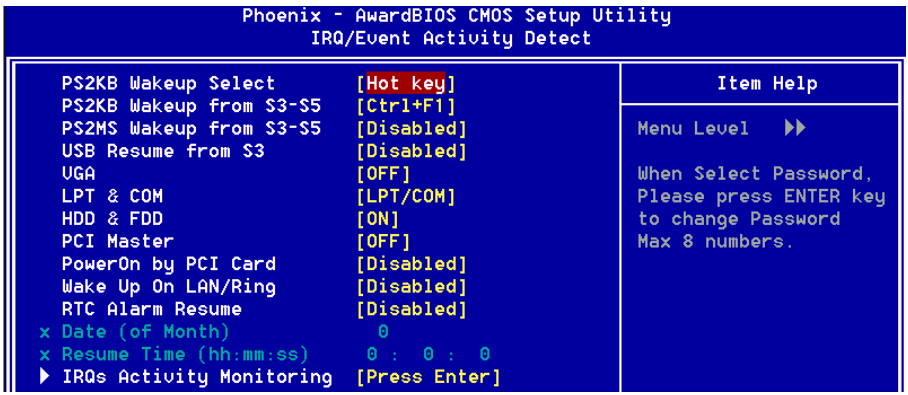
This determines whether or not to enable the system to run the VGA BIOS when resuming from S3(STR) or S1&S3.
Options: Auto, Yes, No.

State After Power Failure

The system will stay of or power on after a power interrupt. The default is Off.
Off: System always stay off after a power interrupt.
On: System always power on after a power interrupt.
Auto: Stay off or power on depend on system safe shutdown or power fail.

▸ *IRQ/Event Activity Detect*

Scroll to IRQ/Event Activity Detect and press <Enter>. The following screen appears:


Phoenix - AwardBIOS CMOS Setup Utility
IRQ/Event Activity Detect
PS2KB Wakeup Select [Hot key]
PS2KB Wakeup from S3-S5 [Ctrl+F1]
PS2MS Wakeup from S3-S5 [Disabled]
USB Resume from S3 [Disabled]
VGA [OFF]
LPT & COM [LPT/COM]
HDD & FDD [ON]
PCI Master [OFF]
PowerOn by PCI Card [Disabled]
Wake Up On LAN/Ring [Disabled]
RTC Alarm Resume [Disabled]
x Date (of Month) 0
x Resume Time (hh:mm:ss) 0 : 0 : 0
▸ IRQs Activity Monitoring [Press Enter]
Item Help
Menu Level ▸▸
When Select Password, Please press ENTER key to change Password Max 8 numbers.

PS2KB Wakeup Select

This item allows you to select Hot Key or Password to wake-up the system by PS2 Keyboard. When select Password, please press ENTER key to change password max 8 numbers.
Options: Hot key, Password.

PS2KB Wakeup form S3-S5

This item allows you to set a Hot Key to wake-up the system by PS2 Keyboard.
Options: Disabled, Ctrl+F1, Ctrl+F2, Ctrl+F3, Ctrl+F4, Ctrl+F5, Ctrl+F6, Ctrl+F7, Ctrl+F8, Ctrl+F9, Ctrl+F10, Ctrl+F11, Ctrl+F12, Power, Wake, Any key.
Note: Power and Wake are Windows98 Keyboard button.

PS2MS Wakeup form S3-S5

This item allows you to wake-up the system by PS2 Mouse.
Options: Enabled, Disabled.

USB Resume from S3

This item allows you to wake-up the system by USB device when you save the computer power at S3.
Options: Enabled, Disabled.

VGA

When set to On (default), any event occurring at a VGA port will awaken a system which has been powered down.

LPT & COM

When set to *On* (default), any event occurring at a COM(serial)/LPT (printer) port will awaken a system which has been powered down.

HDD & FDD

When set to *On* (default), any event occurring at a hard or floppy drive port will awaken a system which has been powered down.

PCI Master

When set to *On* (default), any event occurring to the DMA controller will awaken a system which has been powered down.

PowerOn by PCI Card

An input signal form PME on the PCI card awakens the system from a soft off state.

Wake Up On LAN/Ring

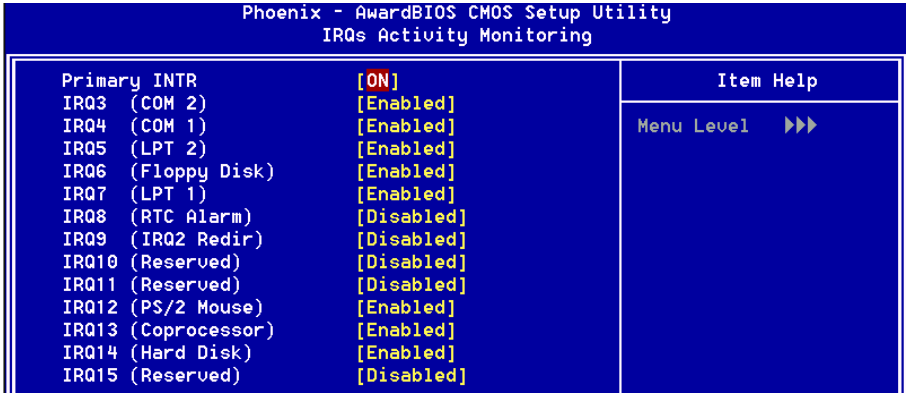
When set to *Enabled*, any event occurring to the Modem Ring / LAN will awaken a system which has been powered down.

RTC Alarm Resume

When set to *Enable rtc alarm resume,* you could set the date (of month) and timer (hh:mm:ss), any event occurring at will awaken a system which has been powered down.

▸ *IRQs Activity Monitoring*

Scroll to IRQs Activity Monitoring and press <Enter>. The following screen appears:



Primary INTR

When set to *On* (default), any event occurring at will awaken a system which has been powered down.

IRQs 3-15

Allows you to set system to monitor IRQs 3-15 for activity to awaken system form a power managerment mode.

4-6 PNP/PCI Configuration

The PNP/PCI configuration program is for the user to modify the PCI/ISA IRQ signals when various PCI/ISA cards are inserted in the PCI or ISA slots.

WARNING: Conflicting IRQ's may cause the system to not find certain devices.

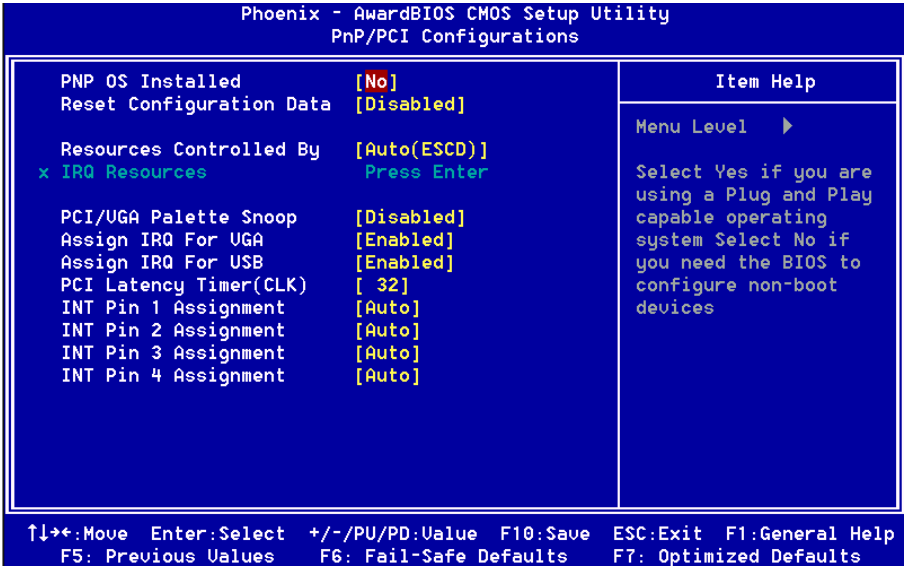

Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
PNP OS Installed [No]
Reset Configuration Data [Disabled]
Resources Controlled By [Auto(ESCD)]
x IRQ Resources Press Enter
PCI/VGA Palette Snoop [Disabled]
Assign IRQ For VGA [Enabled]
Assign IRQ For USB [Enabled]
PCI Latency Timer(CLK) [32]
INT Pin 1 Assignment [Auto]
INT Pin 2 Assignment [Auto]
INT Pin 3 Assignment [Auto]
INT Pin 4 Assignment [Auto]
Item Help
Menu Level
Select Yes if you are using a Plug and Play capable operating system Select No if you need the BIOS to configure non-boot devices
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 7: PNP/PCI Configuration Setup

PNP OS Installed

Do you have a PNP OS installed on your system. The default is No.

Options: Yes, No.

Reset Configuration Data

This setting allows you to clear ESCD data. The default is Disabled

Disabled:Normal Setting.

Enabled: If you have plugged in some Legacy cards to the system and they were recorded into ESCD (Extended System Configuration Data), you can set this field to Enabled in order to clear ESCD.

Resources Controlled By

Determines what controls system PNP/PCI resources. The default is Auto (ESCD).

Manual: PNP Card's resources are controlled manually. The "IRQ Resources"

field becomes available and you can set which IRQ-X and DMA-X are assigned to PCI/ISA PNP or Legacy ISA Cards.

Auto: If your ISA card and PCI cards are all PNP cards, BIOS assigns the interrupt resource automatically.

PCI/VGA Palette Snoop

This item is designed to overcome problems that can be caused by some nonstandard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.
Options: Enabled, Disabled.

Assign IRQ For VGA

This item allows BIOS to assign whether IRQ is with VGA or not. If you have not connect the VGA device. Can release the IRQ for other device. The default is Enabled.
Options: Enabled, Disabled.

Assign IRQ For USB

This item allows BIOS to assign whether IRQ is with USB or not. If you have not connect the USB device. Can release the IRQ for other device. The default is Enabled.
Options: Enabled, Disabled.

PCI Latency Timer (CLK)

The latency timer defines the minimum amount of time, in PCI clock cycles, that the bus master can retain the ownership of the bus.
Options: 0-255.

INT Pin1 to Pin4 Assignment

These settings allow the user to specify what IRQ will be assigned to PCI devices in the chosen slot. The defaults are Auto.
Options: Auto,3,4,5,7,9,10,11,12,14 & 15.

Interrupt requests are shared as shown below:

	INT A	INT B	INT C	INT D
PCI 1	V			
PCI 2		V		
PCI 3			V	
PCI 4				V
PCI 5			V	
AGP Slot	V			
AC97/MC97			V	
Onboard USB1	V			
Onboard USB2		V		
Onboard USB3			V	
USB2.0				V
LAN (Optional)	V			

IMPORTANT!
If using PCI cards on shared slots, make sure that the drivers support “Shared IRQ” or that the cards don’t need IRQ assignments. Conflicts will arise between the two PCI groups that will make the system unstable or cards inoperable.

4-7 PC Health Status

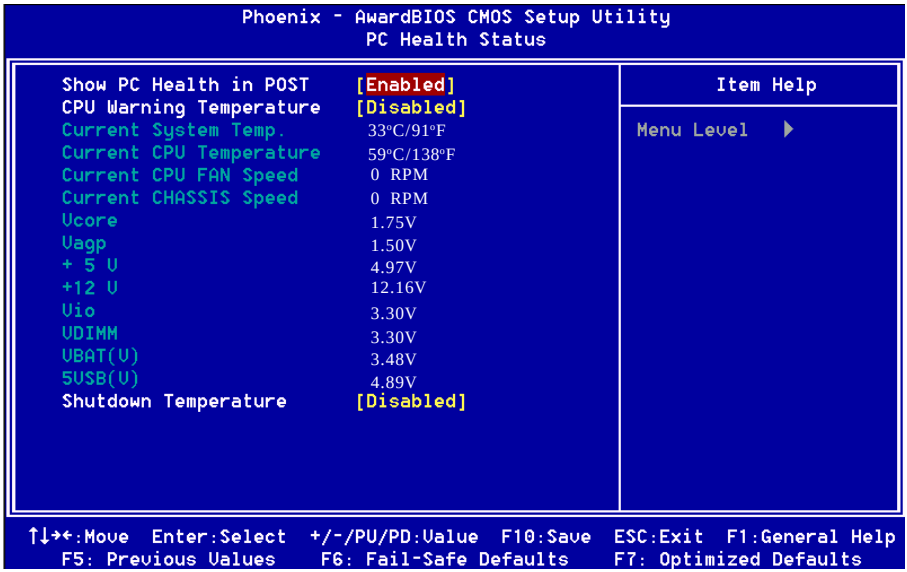


Figure 8: PC Health Status

Show PC Health in POST

When this function is enabled the PC Health information is displayed during the POST (Power On Self Test).

Options: Disabled, Enabled.

CPU Warning Temperature

Sets the temperature at which the computer will respond to an overheating CPU. The default is Disabled.

Options: Disabled, 50°C/122°F ~ 70°C/158°F.

Current System Temperature

Displays the current system temperature.

Current CPU Temperature

Displays the current CPU temperature.

Current CPU/Chassis/Power FAN Speed

Displays the current speed of the CPU, chassis, and power fan speed in RPMs.

Vcore
The voltage level of the CPU(Vcore).

Vagp
The voltage level of Power supplied to AGP card.

VDIMM
The voltage level of the DRAM.

+ 5V, +12V, VBAT(V), 5VSB(V)
The voltage level of the switching power supply.

Shutdown Temperature
This is the temperature that the computer will turn off the power to combat the effects of an overheating system. (requires ACPI to be enabled in Power Management BIOS and ACPI compliant operating system.) The default is Disabled. Options available are 60°C/140°F to 75°C/167°F in increments of 5°C.

4-8 Frequency/Voltage Control

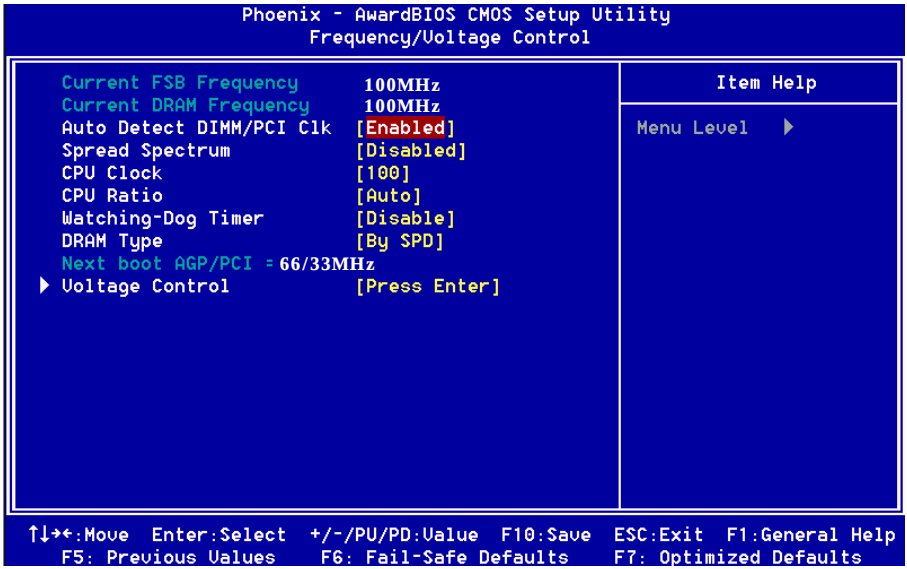

Phoenix - AwardBIOS CMOS Setup Utility
Frequency/Voltage Control
Current FSB Frequency 100MHz
Current DRAM Frequency 100MHz
Auto Detect DIMM/PCI Clk [Enabled]
Spread Spectrum [Disabled]
CPU Clock [100]
CPU Ratio [Auto]
Watching-Dog Timer [Disable]
DRAM Type [By SPD]
Next boot AGP/PCI = 66/33MHz
Voltage Control [Press Enter]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 9: Frequency/Voltage Control

Current CPU Frequency

Diaplay the current CPU clock frequency information.

Current DRAM Frequency

Display the DRAM frequency information.

Auto Detect DIMM/PCI Clk

When enabled the mainboard automatically disables the clock source for a DIMM/ PCI slot which does not have a module in it, reducing EMI (ElectroMagnetic Interference). The default is Enabled.

Options: Enabled, Disabled.

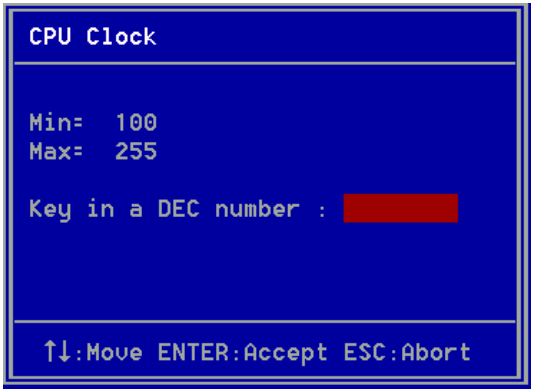
Spread Spectrum

If you enable spread spectrum, it can significantly reduce the EMI (ElectroMagnetic Interference) generated by the system.

Options: Disabled, Enabeld.

CPU Clock

Enables you to set the CPU front side bus speed. The default is 100 MHz. Enables you to adjust CPU clock 1MHz by step. Pressing Enter displays the following screen:



Key in the DEC (decimalism) number for the CPU clock.

CPU Ratio

Use this item to select a multiplier for the system frontside bus (FSB) frequency.
Options: Auto, x6 ~ x15.
The value of the multiplier must be set so that:

Multiplier x Frontside Bus Frequency = CPU Clock Speed

For example, if you have a processor that is rated to run at 450 MHz and the system is running a frontside bus frequency of 100 MHz, you should select a multiplier of 4.5 so that:

4.5 (Multiplier) x 100 MHz (frontside bus) = 450 MHz (CPU clock)

Watching-Dog Timer

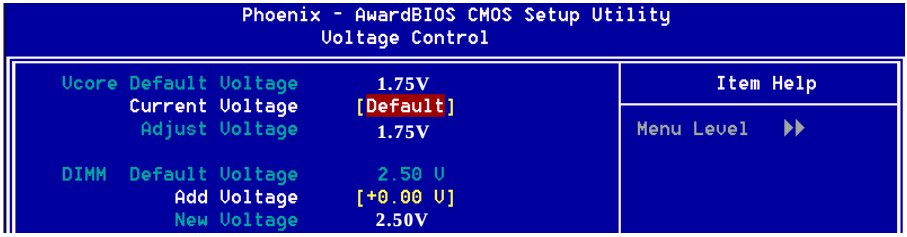
If you select enabled and overclock fail before POST code 26h, the system will reset automatically by default configuration.
Options: Enabled, Disabled.

DRAM Type

This item allows you to select the DRAM type. The default is By SPD.
Options: By SPD, DDR200, DDR266, DDR333.

Voltage Control

Scroll to Voltage Control and press <Enter>. The following screen appears:



In the following items, "Default Voltage" indicates the original factory value, and "New Voltage" indicates the value that you assign.

CPU Vcore Voltage

This item allows you to set the CPU Vcore voltage. The default is Default. Options: Default, 1.400V to +1.850V in 0.025V increments and 1.850V to +2.200V in 0.050V increments. We recommend that you leave this at the default value.

DIMM Voltage

This item allows you to set the DIMM slot voltage. The default is +0.00V. Options: +0.00V to +0.70V in 0.10V increments. We recommend that you leave this at the default value.

4-9 Defaults Menu

Selecting “Defaults” from the main menu shows you two options which are described below

Load Fail-Safe Defaults

When you press <Enter> on this item you get a confirmation dialog box:

Load Fail-Safe Defaults (Y/N) ? N

Pressing ‘Y’ loads the BIOS default values for the most stable, minimal-performance system operations.

Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box:

Load Optimized Defaults (Y/N) ? N

Pressing ‘Y’ loads the default values that are factory settings for optimal performance system operations.

4-10 Supervisor/User Password Setting

You can set either supervisor or user password, or both of then. The differences between are:

supervisor password : can enter and change the options of the setup menus.

user password : just can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password. To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to “System”, the password will be required both at boot and at entry to Setup. If set to “Setup”, prompting only occurs when trying to enter Setup.

4-11 Exiting BIOS

Save & Exit Setup

Pressing <Enter> on this item asks for confirmation:

Save to CMOS and EXIT (Y/N)? Y

Pressing "Y" stores the selections made in the menus in CMOS – a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

Exit Without Saving

Pressing <Enter> on this item asks for confirmation:

Quit without saving (Y/N)? Y

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.

Section 5
Driver Installation

Easy Driver Installation

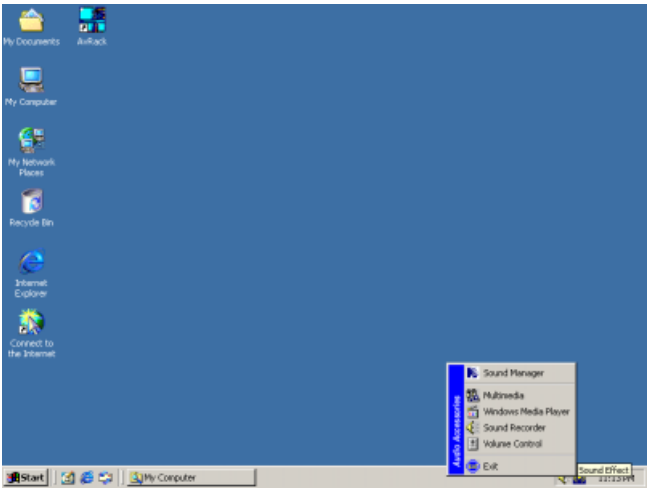
Insert the bundled CD-disk.

Step 1 : Click **"SERVICE PACK 4IN1 DRIVER"**. Install all components recommended.

Step 2 : Click **"ALC201A/650 AC'97 AUDIO DRIVER"** to install Audio driver.

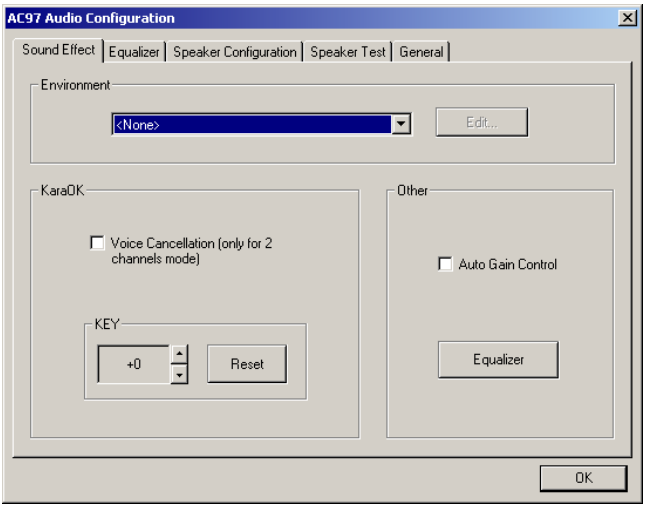
ALC650 Configuration Setup (6 Channel)

◆ To enable ALC650 Function



<*Figure 1*>

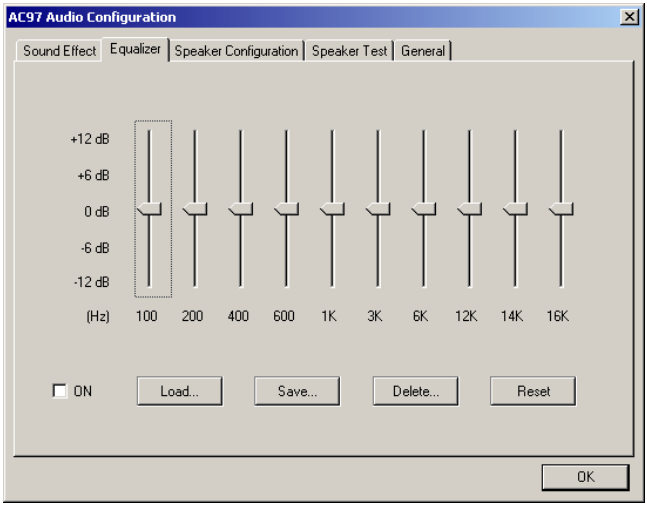
1. Right-click **Sound Effect** button in the tool bar display currently selected Titles. Select **Sound Manager**.



Sound Effect:

<*Figure 2*>

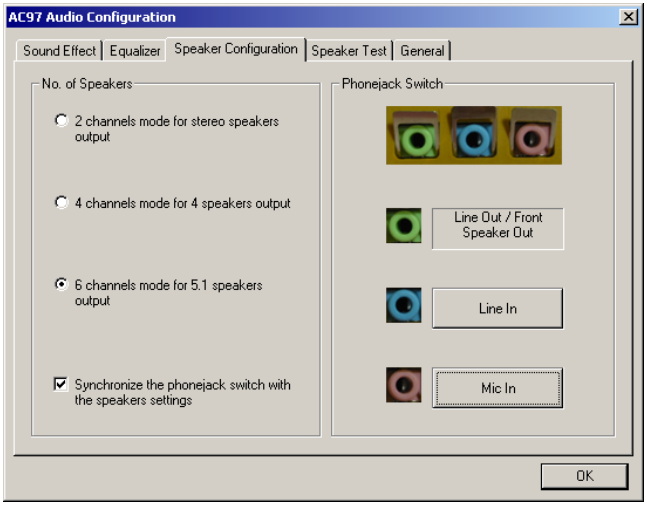
2. Click **Sound Effect** button and select **Environment** from the drop-down menu.



Equalizer:

<Figure 3>

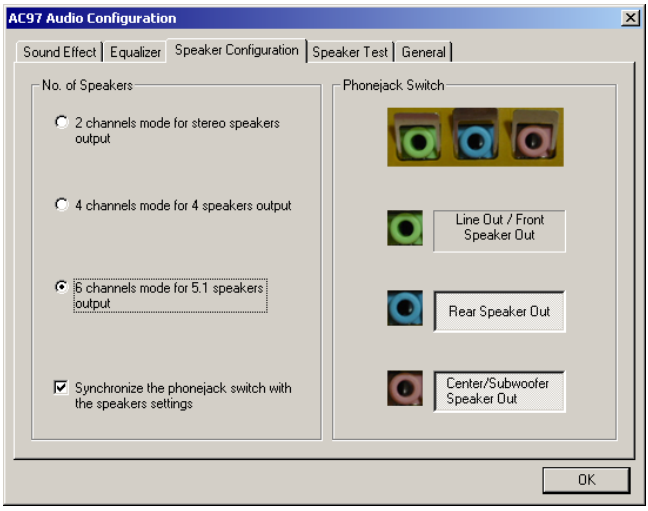
3. Click **Equalizer** and setup the value of dB.



Speak Configutation:

<Figure 4>

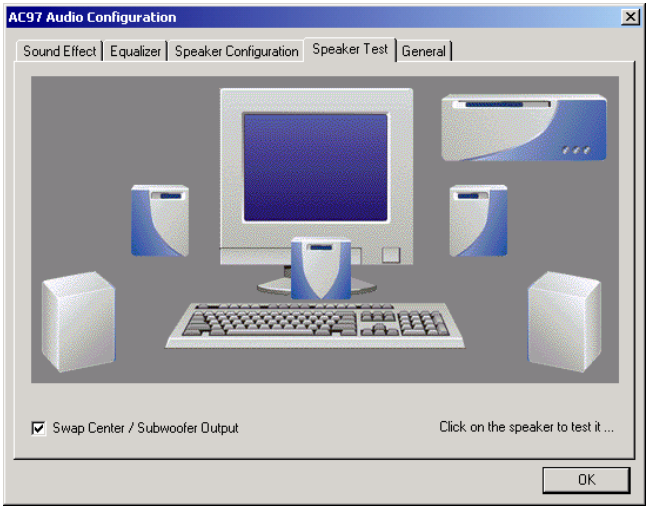
4. Click **Line in** and **Mic in** buttons to enable 6 channel function as this is required for the ALC650.



Speak Configutation:

<Figure 5>

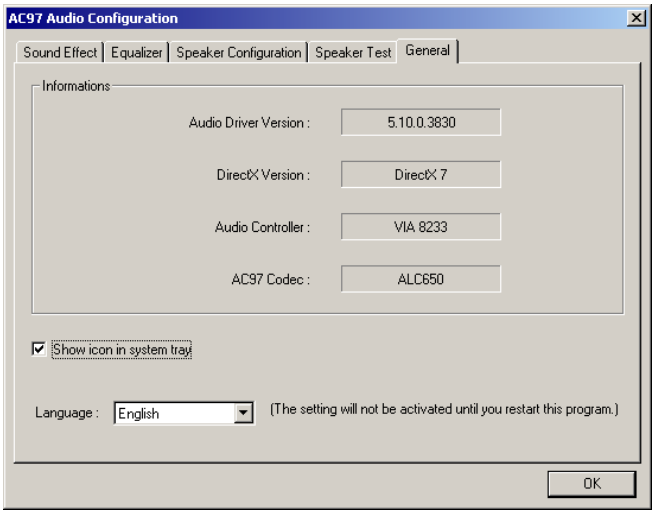
5. The selected screen appears.



Speaker Test:

<Figure 6>

6. Click **Speaker Test** button and click on the speakers directly which show on the screen to test it.



General:

<Figure 7>

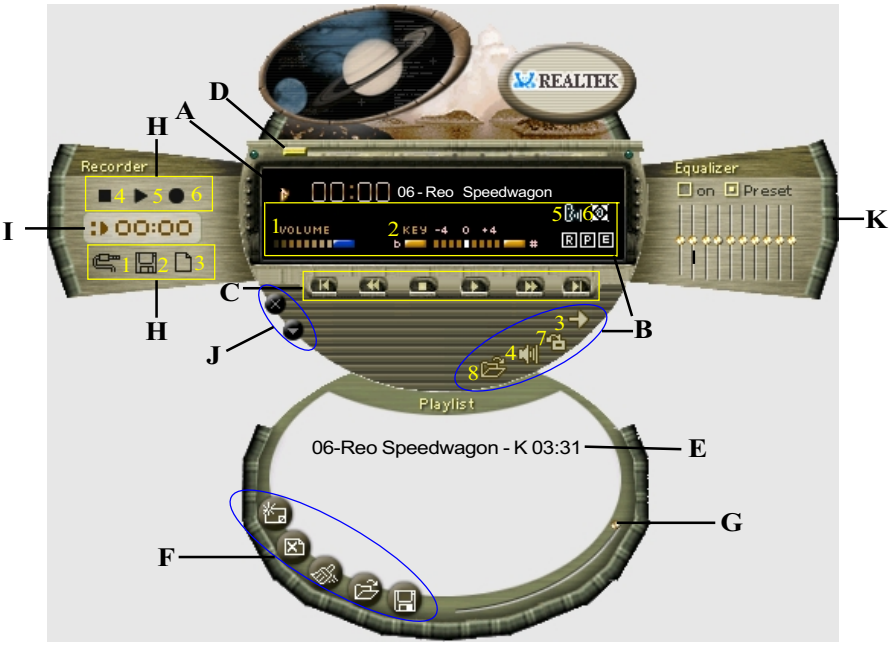
7. General Information for user reference.

Page Left Blank

Appendix A

A-1 Avance® Media Player User's Guide

Avance® Media Player Platform



Functional Descriptions

A. Playback Windows Display

Playback windows displays the following mode information:

1. Playback Time Display
2. Voice Cancellation Mode Display
3. Pitch Mode Display
4. Surround Sound Mode Display

B. Playback Function Controls

There are 8 selectable functions for the playback:

1. Volume control — High/Low Adjustment Bar.
2. Pitch control — 4-step High/Low Adjustment Bar.
3. Repeat mode — Choice of Repeat, All Repeat, Random or No Repeat Mode.
4. Mute — Mute On/Off Mode select.

Surround mode	Surround mode
Generic	Stone corridor
Padded	Alley
Room	Forrest
Bathroom	City
Living room	Mountain
Stone	Quarry
Auditorium	Plain
Concert	Parking lot
Cave	Sewer pipe
Arena	Under water
Hangar	Drug
Carpet	Dizzy
Hallway	Psychological

5. Voice cancellation — Voice Cancellation On/Off Mode select for Karaoke.
6. Surround mode — A total of 26 Surround Sound mode select as shown in the table below.
7. Skin change — Media Player Skin Type select.
8. Open — Open file formats including MP3, CDA, MDI, WAV & WMA support.

C. Playback Controls

The playback controls include “Play”, “Pause”, “Stop”, “Previous”, “Backward”, “Forward”, & “Next”.

D. Seeking bar

Display Animated Playback Status

E. Title/Play List Windows

Display Currently Selected Title(s)

F. Title/Play List Edit Controls

There title/play list controls include “Add”, “Del”, “Clear”, “Load”, & “Store”.

1. Add	Add to the Title/Play List.
2. Del	Remove form the Title/Play List.
3. Clear	Clear the Title/Play List.
4. Load	Load Title/Play List.
5. Store	Save Title/Play List.

G. Title/Play List Scroll bar

Scroll Up/Down the Title/Play List.

H. Recording Function Controls

The recording function controls include “Input”, “Save, “New”, “Rec”, “Stop”, & “Play”.

1. Input	Input soruce select.
2. Save	Save to file.
3. New	Open new file & select format includes Sampling Rate, Sampling bit, Mono or Stereo.
4. Rec	Start Rec.
5. Stop	Stop Rec.
6. Play	Playback Rec file.

I. REC/Playback Time Display

Displays REC/Playback Time.

J. Platform Display Panel Controls

The platform display panel control include “Minimize” & “Close”.

1. Minimize	Minimize Platform Display Panel.
2. Close	Close/Exit Platform Display Panel.

K. Equalizer Control Panel

The Equalizer Control Panel include “On/Off” & “Preset”.

1. On/Off	Enable/Disable Equalizer.
2. Preset	Clear Equalizer setting to default value.

Appendix B

B-1 Update Your System BIOS

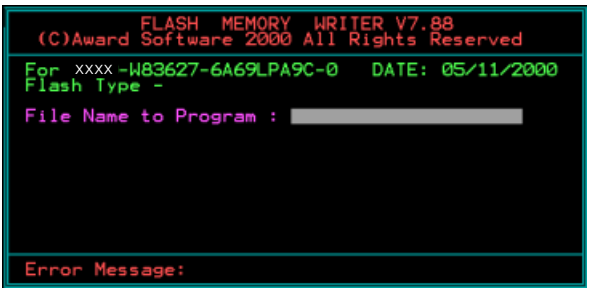
Download the xxxxx.EXE file corresponding to your model form the our website to an empty directory on your hard disk or floppy. Run the downloaded xxxxx.EXE file and it will self extract. Copy these extracted files to a bootable DOS floppy disk.

Note: The DOS floppy disk should contain NO device drivers or other programs.

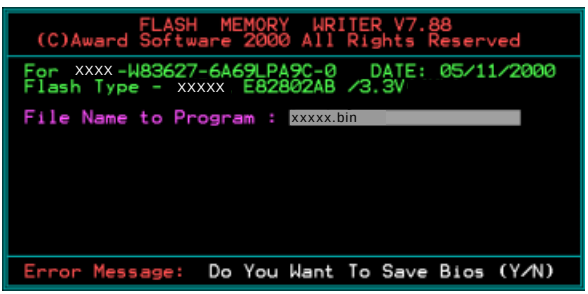
1. Type "A:\AWDFLASH and press <Enter> Key.

2. You will see the following setup on screen.

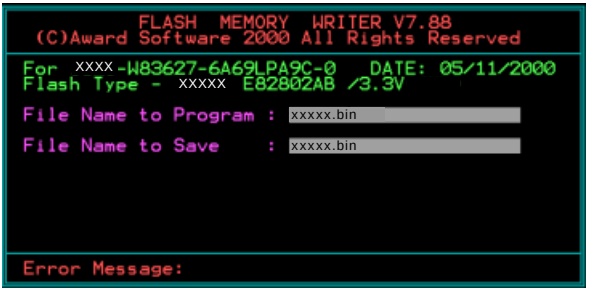
3. Please key in the xxxxx.bin BIOS file name.


FLASH MEMORY WRITER V7.88
(C)Award Software 2000 All Rights Reserved
For xxxx-W83627-6A69LPA9C-0 DATE: 05/11/2000
Flash Type -
File Name to Program :
Error Message:

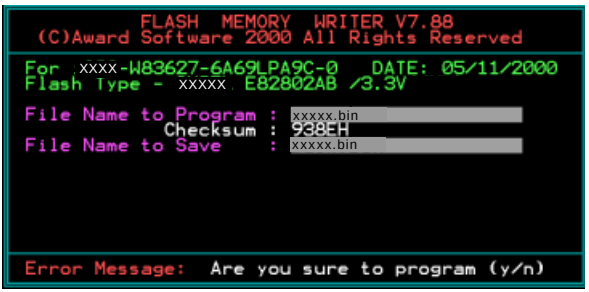
4. If you want to save the previous BIOS data to the diskette, please key in [Y], otherwise please key in [N].


FLASH MEMORY WRITER V7.88
(C)Award Software 2000 All Rights Reserved
For xxxx-W83627-6A69LPA9C-0 DATE: 05/11/2000
Flash Type - xxxxx E82802AB /3.3V
File Name to Program : xxxxx.bin
Error Message: Do You Want To Save Bios (Y/N)

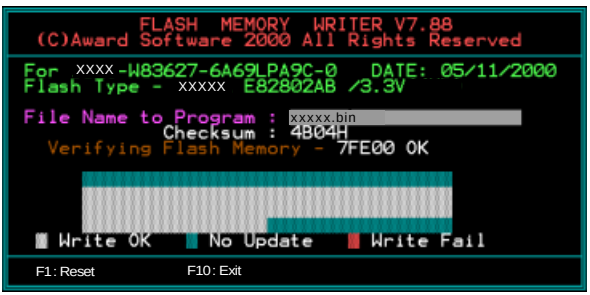
5. Key in File Name to save previous BIOS to file.


FLASH MEMORY WRITER V7.88
(C)Award Software 2000 All Rights Reserved
For XXXX-W83627-6A69LPA9C-0 DATE: 05/11/2000
Flash Type - XXXXX E82802AB /3.3V
File Name to Program : xxxxx.bin
File Name to Save : xxxxx.bin
Error Message:

6. Are you sure to program (y/n), please key in [Y] to start the programming.


FLASH MEMORY WRITER V7.88
(C)Award Software 2000 All Rights Reserved
For XXXX-W83627-6A69LPA9C-0 DATE: 05/11/2000
Flash Type - XXXXX E82802AB /3.3V
File Name to Program : xxxxx.bin
Checksum : 938EH
File Name to Save : xxxxx.bin
Error Message: Are you sure to program (y/n)

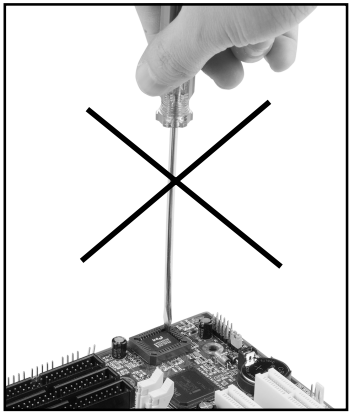
7. The programming is finished.

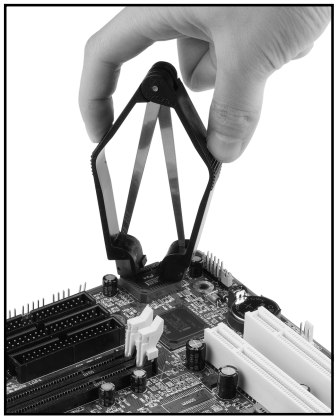


Appendix C

C-1 EEPROM BIOS Remover

Do not remove the BIOS chip, unless instructed by a technician and only with a PLCC IC extractor tool.





The BIOS socket may be damaged if using an improper method to replace the BIOS chip.

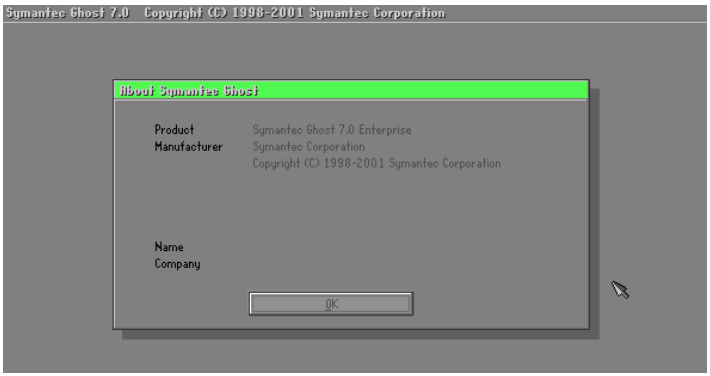
Page Left Blank

Appendix D

D-1 GHOST 7 Quick User's Guide (Optional)

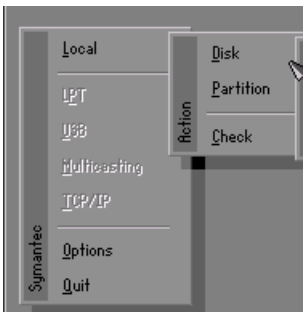
Installation is very easy. You only need to copy the **Ghost7** folder or **Ghost.exe** to your hard disk.

Main Menu



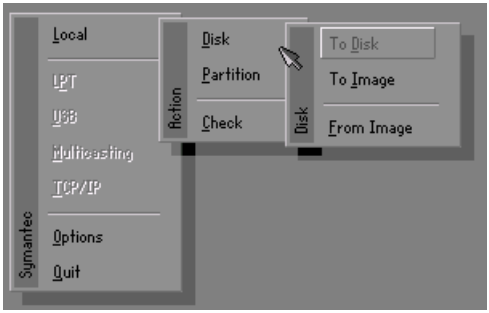
Description of Menu

Ghost clones and backs up **Disk** and **Partition.**



In which **Disk** indicates hard disk options
Partition indicates partition options
Check indicates check options

Disk



There are 3 hard disk functions:

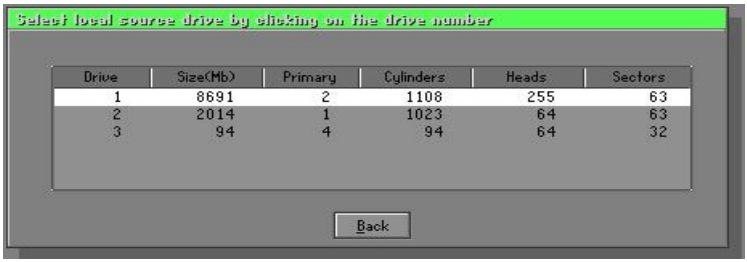
1. Disk To Disk (disk cloning)
2. Disk To Image (disk backup)
3. Disk From Image (restore backup)

Important!

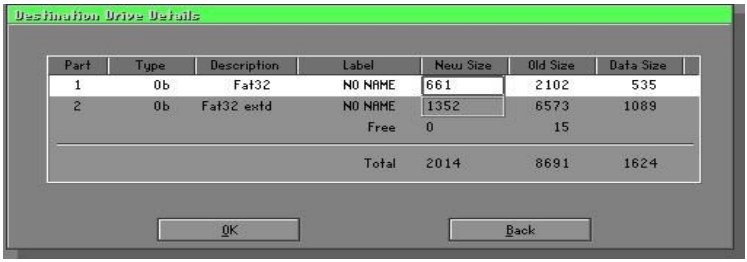
1. To use this function, the system must have at least 2 disks. Press the **Tab** key to move the cursor.
2. When restoring to a destination disk, all data in that disk will be completely destroyed**.**

Disk To Disk (Disk Cloning)

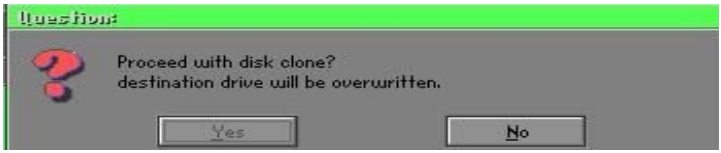
1. Select the location of the **Source drive**.
2. Select the location of the **Destination drive**.



3. When cloning a disk or restoring the backup, set the required partition size as shown in the following figure.

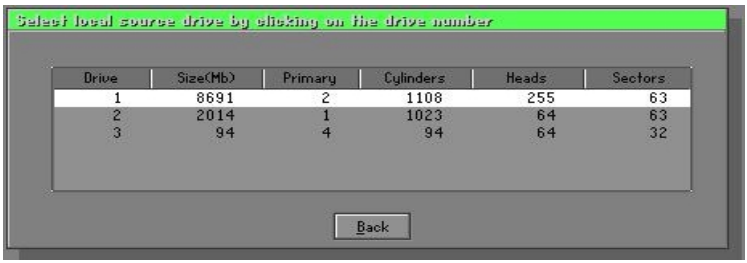


4. Click OK to display the following confirmation screen. Select **Yes** to start.

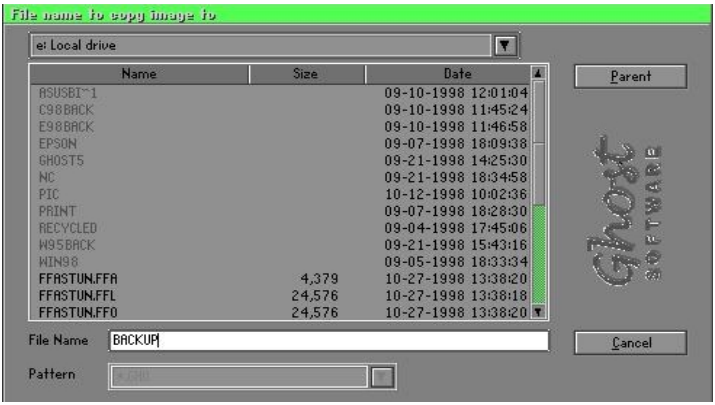


Disk To Image (Disk Backup)

1. Select the location of the Source drive.



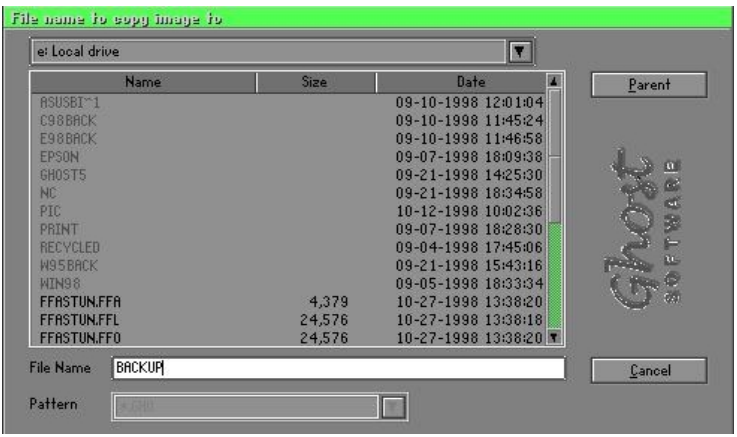
2. Select the location for storing the backup file.



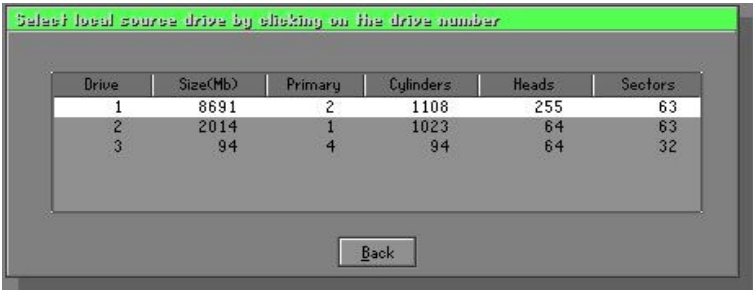
3. Click **OK** to display the following confirmation screen. Select **Yes** to start.

Disk From Image (Restore Backup)

1. Select the Restoring file.

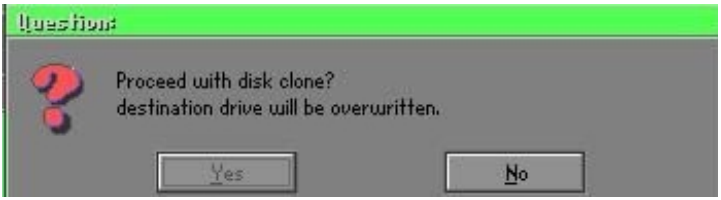


2. Select the **Destination drive** of the disk to be restored.

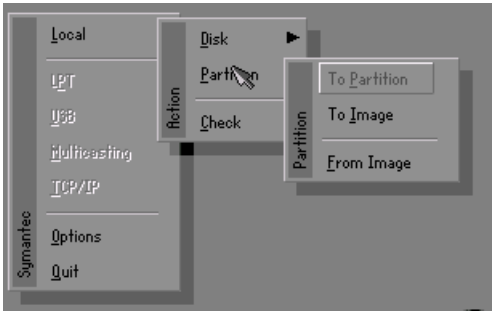


3. When restoring disk backup, set the required partition size as shown in the following figure.

4. Click **OK** to display the following confirmation screen. Select **Yes** to start.



Partition



There are 3 partition functions:

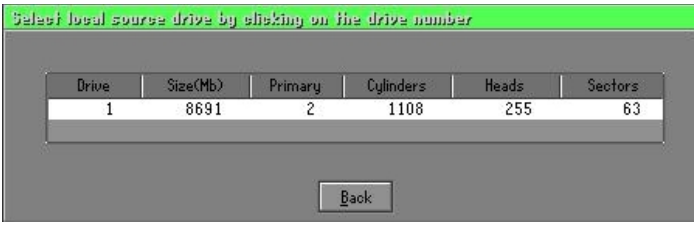
1. **Partition To Partition** (partition cloning)
2. **Partition To Image** (partition backup)
3. **Partition From Image** (restore partition)

Partition To Partition (Partition Cloning)

The basic unit for partition cloning is a “partition”. Refer to “disk cloning” for the operating method.

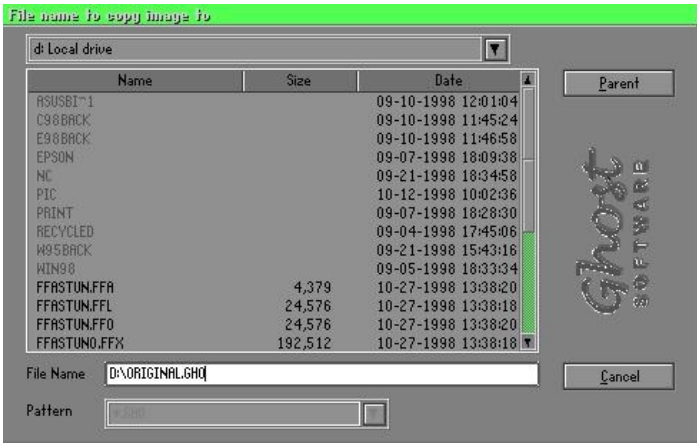
Partition To Image (Partition Backup)

1. Select the disk to be backed up.



2. Select the first partition to be backed up. This is usually where the operating system and programs are stored.

3. Select the path and file name to store the backup file.

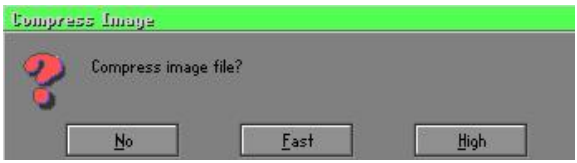


4. Is the file compressed? There are 3 options:

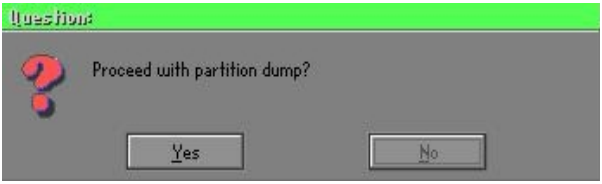
   (1) No: do not compress data during backup

   (2) Fast: Small volume compression

   (3) High: high ratio compression. File can be compressed to its minimum, but requiring longer execution time.

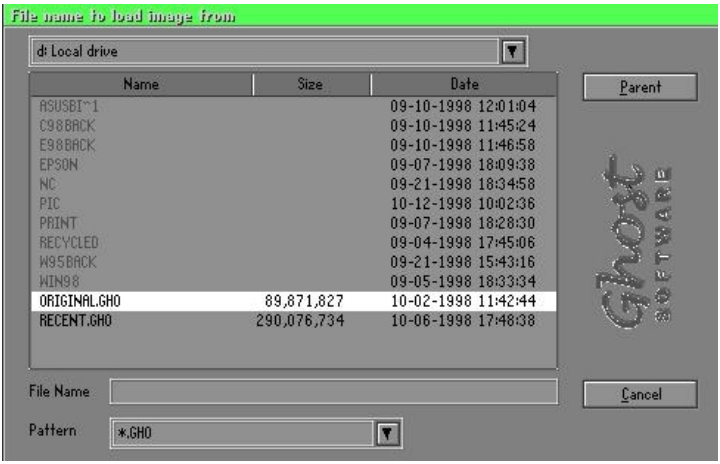


5. Select Yes to start performing backup.



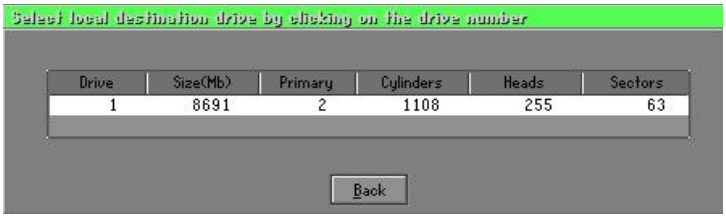
Partition From Image (Restore Partition)

1. Select the backup file to be restored.



2. Select the source partition.

3. Select the disk to be restored.



4. Select the partition to be restored.

5. Select Yes to start restoring.

Check

This function is to check possible error caused by defective FAT or track during backup or restoring.

How to Reinstall Windows in 2 Minutes

This chapter guides you how to setup your computer properly and, if necessary, reinstall Windows in 2 minutes. **Ghost** provides different methods to complete this task. The following two sections explain how to create an emergency **Recover Floppy** and **Recover CD**:

Emergency Recover Floppy

Divide a hard disk into two partitions. The first partition is to store the operating system and application programs. The second partition is to back up the operating system and data. The size of the partition can be determined according to the backup requirements. For example, the **Windows** operating system needs 200MB of hard disk space, Plus complete **Office** programs require 360MB. The remaining space can be used to store data.

After installing **Windows,** use **Ghost** to create a backup area for the system and to store the file (Image file) in drive D. The file is named **Original.gho**. Then, create a recover floppy disk containing:

- Bootable files (Command.com, Io.sys, and MSDOS.SYS)
- Config.sys (configuration setup file)
- Autoexec.bat (auto-execution batch file)
- Ghost.exe (Ghost execution file)

There are two ways to create the content of the recover floppy for restoring:

(1) To load **Windows** automatically after booting, store the **Autoexec. bat** file with a command line:

Ghost.exe clone, mode=pload, src=d:\original.gho:2,dst=1:1 -fx -sure -rb

Command Description: Runs the restore function automatically with the Image File. Stored in drive D. After execution, it will exit Ghost and boots the system.

Refer to the [Introducing Ghosts Functions] for details.

(2) After booting, the screen displays the Menu. Select Backup or Restore: Since the user may install other applications in the future, he/she may alter **Autoexec.bat** file to back up or restore the user-defined Image file as follows:

☞ **Backup**

Back up Windows and application programs as a file (Recent. gho). Command is:

Ghost –clone,mode=pdump,src=1:1,dst=d:\Recent.gho -fx -sure -rb

☞ **Restore**

Restore types include **[General Windows]** and **[Windows and Application Programs].** If you select **[General Windows],** the system is restored to the general **Windows** operation condition. The command is:

Ghost.exe -clone,mode=pload,src=d:\Original.gho,dst=1:1 -fx -sure -rb

If you select **[Windows and Application Programs],** the latest backup file (Recent.gho) is restored, skipping the installation and setup of application programs.

For description of related parameters, refer to **[Introducing Ghosts Functions]**.

For more information about menu design, refer to Config.sys and Autoexec.bat under /Menu in the CD. You can also create a backup CD containing Ghost.exe and these two files.

Recover CD

The following is a simple guide to create a recover CD:

1. First, create a recover floppy disk contains the following with any copy program such as “Easy CD Create” (Note 2) :

   Bootable files (Command.com and Io.sys and MSDOS.SYS)

   Config.sys (Configuration setup file)

   Autoexec.bat (Auto-execution batch file)

   Mscdex.exe (CD-Rom execution file)

   Ghost.exe (Ghost execution file)

   Oakcdrom.sys (ATAPI CD-ROM compatible driver)

   The content of Config.sys is:

   ```
   DEVICE=Oakcdrom.sys /d:idecd001
   ```

   The content of Autoexec.bat includes:

   ```
   MSCDEX.EXE /D:IDECD001 /L:Z
   Ghost.exe clone,mode=load,src=z:\original.gho,dst=1 -sure -rb
   ```

2. Write the backup image file (original.gho) of the entire hard disk or partition into the recover CD. Use the Recover CD to boot up the system and restore the backup files automatically.

For description of related parameters, refer to **[Introducing Ghosts Functions]**.

Note: For more details about copy the creation program and method to create a recover CD, please refer to the releated software and its associated operating manual.

Note: Ghost may be executed in interactive or in batch mode. Most of the Ghost switches are used to assist in batch mode operation. To list switches, type ghost.exe -h.